Sensory Multihandicapped Program Planning Project

Technical Report

planning & research

Alberta
EDUCATION

104-03927/

SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

TECHNICAL REPORT

A report prepared for Alberta Education by the
Sensory Multihandicapped Project Planning Team

October, 1979

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Dear Sirs:

This document is the final report of the Sensory Multihandicapped Project Planning Team. The Team was formed in March, 1979 to plan a comprehensive program for the education and development of children who are sensory multihandicapped and to determine the program, organization, facilities and financing to implement the program.

The first part of the report is the recommendations developed by the Team. The second part of the report contains supplementary and supportive documentation.

We look forward to your reactions to the recommendations of the Team.

Sincerely yours,

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ACKNOWLEDGEMENTS

The Planning Team of the Sensory Multihandicapped Project acknowledges with appreciation the contribution of the following persons and groups of persons:

The members of the Steering Committee and particularly the Chairman, Dr. E. J. M. Church, Director, Special Educational Services Branch. Interaction with the Committee was instrumental in establishing and maintaining the direction of the Project.

Mr. D. Young, Research Assistant, whose expertise and efficiency is evident throughout the report.

Mrs. S. Sommerfield, Project Secretary, whose dedication and support was invaluable.

The many consultants, advisors and program directors from across North America who offered their programs for inspection and who freely shared their experience and expertise.

The numerous parents and professionals from within Alberta whose interest in the project was evidenced by willing, useful suggestions and insights.

ABSTRACT

The purpose of the Sensory Multihandicapped Project was to plan a comprehensive program for the education and development of children who are sensory multihandicapped. Sensory multihandicapped persons are those who are deaf-blind, deaf with other handicaps, or blind with other handicaps.

The task of the Project Team was accomplished through a review of the literature, visits to sites serving the sensory multihandicapped in North America, written contacts with persons and agencies serving the sensory multihandicapped outside North America, briefs solicited from the public, considerable discussion with public and private agencies serving the sensory multihandicapped in Alberta, and the use of a number of consultants.

The general conclusion produced by the Project Team was that the Government of Alberta should proceed to implement educational, residential, resource and support services for the sensory multihandicapped population in Alberta.

Administration of the program will be the responsibility of an Interdepartmental Commission representative of Alberta Education, Alberta Social Services and Community Health, and Alberta Advanced Education and Manpower. The Commission will be responsible for the development of policy and for budget considerations. An Administrator will be responsible for putting the policies developed

by the Commission into effect through the resource centers, schools and residential services.

Two resource centers will be established, one in Edmonton and one in Calgary to serve in cooperation with existing services, as centralized coordinating agencies responsible for preventative, early identification, and early intervention programs for sensory multihandicapped children in Alberta. The resource centers will facilitate or provide assessment and program planning for each child; provide inservice, program consultation, materials and resources to community agencies and school jurisdictions within the province; and facilitate or provide parent programs.

The school program will be implemented by local school jurisdictions with consultative and specialized support services provided on an out-reach basis through the resource centers. Where it is beyond the capability of small school jurisdictions to develop their own highly specialized programs, they may contract for such services from another school board. School boards in Calgary and Edmonton will each operate a highly specialized program for sensory multihandicapped children, including children resident in those cities and children sponsored by other school jurisdictions. The majority of sensory multihandicapped persons will continue to reside in their own communities, receive educational and other services through existing programs with specialized resources and support provided through the resource center.

Children involved in the program will reside with parents, guardians, foster parents, or in group homes. Accommodation will be available for families whose children are undergoing intensive short-term assessment.

In particular, the Project Team has recommended:

1. that an Interdepartmental Commission composed of senior representatives of Alberta Education, Alberta Advanced Education and Manpower, and Alberta Social Services and Community Health, be established to monitor budget, policy, and priorities related to the delivery of services to the sensory multihandicapped in Alberta;

2. that funding for all services on behalf of the sensory multihandicapped population be administered through the Interdepartmental Commission;

3. that two regional resource centers, one in Edmonton and one in Calgary, be developed to provide specialized support and resource services on a twelve month basis;

4. that an agreement be entered into between the Government of Alberta and the Calgary Board of Education and the Edmonton Public School Board whereby the two school jurisdictions would provide educational programs to deaf-blind, blind multihandicapped and deaf multihandicapped children sponsored by local school jurisdictions;

5. that residential accommodation be made available as required;

6. that sufficient programs to train teachers, teacher's aides, rehabilitation aides, and other specialists to work with the deaf-blind, blind multihandicapped and deaf multihandicapped population in Alberta be ensured.

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SUPPLEMENTARY MATERIALS (separate volume)

1. A Review of the Literature
2. Demographic Survey Findings
3. Summary of Briefs Presented to the Planning Team
4. Sources of Information Utilized
5. Resource Centers: Proposed Architectural Specifications
6. The Individualized Educational Program Planning Process
7. School Program

Section I

FOREWARD

In early 1977, Alberta Education began to consider special services for sensory multihandicapped children in Alberta. The consideration of this special population arose from an awareness on the part of the Alberta government that the means to provide adequate service to this population did not exist in totality in Alberta. Those services which did exist were incomplete and over-extended. Therefore, in February 1979, the Minister of Education announced the Government's decision to establish a Planning Team to design a comprehensive program for the education and development of sensory multihandicapped children in Alberta.

Directions Provided for Planning a Program for the Sensory Multihandicapped in Alberta

PURPOSE: The major purpose of this study is to plan a comprehensive program for the education and development of children who are sensori-multihandicapped (e.g. blind-deaf, deaf-retarded, blind-retarded) and to determine the program, organization, facilities and financing necessary to implement the program.

SCOPE: The study will consider all aspects of a comprehensive program including the identification, assessment, referral, placement care and training, follow up and reassessment of pupils, and the co-ordination of the program with existing programs and facilities now operating.

PROCEDURE: The study will be under the overall direction of a steering committee. The proposed membership is as follows:

1. Two representatives from Alberta Education
2. One representative from Alberta Social Services and Community Health
3. One representative from the academic community
4. An administrator of special education programs from a school system
5. The director or head of an existing program for the severe or multi-handicapped. (e.g. Baker Center, Calgary; Elves Memorial Center Edmonton)

The Alberta Education members of the steering committee are Dr. E. J. M. Church who will act as chairman and Dr. H. C. Rhodes. Other members are yet to be named.

The actual study will be carried out by a planning team of two persons, one from the government and the other from a school system. From time to time the team will employ consultants for specific parts of the planning. Some of the major activities of the planning team will be:

1. Formulating a general design for the study including objectives, phases, time-lines and budget, and also a design for implementing a comprehensive program.
2. Reviewing the literature
3. Evaluating existing programs in North America and elsewhere by on-site observation and discussion with those involved in the programs. Programs already known are: The Institute for Logopedics, Witchita Kansas; The Multi-Handicapped Deaf Unit of the California School for the Deaf, Riverside, California; The Elwyn Institute, Media, Pennsylvania; Dixon State Hospital, Georgia; Multi-handicapped blind program at W. Ross MacDonald School, Ontario; Kennedy Center, London, England

4. Conferring with persons, groups, organizations and societies in Alberta who have an interest in this area (e.g. Alberta Association for the Visually Impaired, Alberta Coordinating Council on Deafness, Alberta Association for the Dependent Handicapped, Alberta Association for the Mentally Retarded)

An advisory review panel will be convened at least twice during the study to take a critical and objective view of the study and to make recommendations for improvement.

COMPONENTS OF THE PROGRAM:

1. The Clientele
   - (a) The demography of the population in Alberta to be served
   - (b) Possibilities of serving the needs of other western provinces

2. The Program
   - (a) The kinds of developmental needs of the sensory multihandicapped (e.g. language, mobility, self-help skills)
   - (b) The developmental and custodial aspects of the program
   - (c) The need for assessment, referral, placement and follow up

3. Organizational Arrangements
   - (a) Centralization versus decentralization
   - (b) Relationship to other services, to school boards, to parents
   - (c) Ancillary services

4. The Staff
   - (a) Number and kinds of staff required
   - (b) Means of securing qualified staff

5. Facilities

   Location, buildings and equipment, in the light of preferred mode of provision of the service

6. Financing

   Estimates of capital and operational costs

7. Administration

   Arrangements for financing, control, and reporting

Operating Plan

The various sequential activities undertaken by the Planning Team, and the respective time allocations, were as follows:

1. Conduct Literature Review. (7 weeks) Review relevant literature and summarize it so that it provides a framework for subsequent work (e.g. Activity No. 6).
2. Plan Inventory. (2 weeks) Develop a plan for assessing available resources both within the province and externally. Develop travel itineraries.
3. Review Secondment. (2 weeks) Determine the need for an extension of secondments. Negotiate as required.
4. Steering Committee Meeting. The initial meeting should examine the basic plan and provide directions.
5. Conduct Provincial Inventory. (5 weeks) Examine programs and resources currently available in Alberta.
6. Conduct External Inventory. (5 weeks) Same as 5 above but confined to areas outside Alberta.
7. Develop Client Classification Criteria. (2 weeks) On the basis of information gathered to date, develop a schema for classifying clients.
8. Summarize Resources. (2 weeks) Summarize the resources identified in Activities 5 and 6.
9. Develop Needs Assessment Instrumentation. (2 weeks) Develop the ways and means for identifying clients, determining their types and numbers, geographic locations, and interest group expectations for the project.
10. Steering Committee Meeting. Review the information gathered in the data collection phase, review the classification criteria (from Activity 7) and provide direction for future activity.
11. Determine Number/Type of Clients. (4 weeks) Determine number and types of potential clients.
12. Determine Geographic Distribution. (4 weeks) Identify client locations and clusters.
13. Determine Interest Group Expectations. (4 weeks) Assess the expectations held by various interest groups, e.g. parents, social agencies, medical practitioners, etc.
14. Summarize Needs. (1 week) Summarize the findings of the needs assessment phase into information useful to subsequent planning stages.

15. Develop Outline of Program Specifications. (1 week) Outline parameters to be considered as planning is undertaken to develop appropriate programs.
16. Steering Committee Meets. Consider findings to date and provide recommendations for future directions.
17. Specify Evaluation Program. (2 weeks) Specify the several evaluation programs: identification and referral, complete assessment, placement, and follow-up.
18. Specify Educational Programs. (2 weeks) Specify the various educational programs.
19. Examine Alternate Delivery Modes. (2 weeks) Assess feasibility and introduce other factors as required.
20. Specify Parental Involvements. (2 weeks) Specify how parents would be involved in each of the alternatives considered in Activities 18 and 19.
21. Specify Support Services. Specify support services required in each alternative considered in Activities 18 and 19. These include professional, custodial, food service, maintenance, operation, etc.
22. Specify Educational/Residential Programs. (2 weeks) Specify feasible programs emerging from Activities 17 - 21.
23. Develop Facilities Specifications. (2 weeks) Prepare specifications for any facilities required. These should be of sufficient detail to guide architects in subsequent design.
24. Develop Recommendations. (1 week) Prepare recommendations for future work.
25. Develop Phase II Action Plan. (1 week) The action plan should include alternatives available, evaluation criteria for selecting among alternatives, and plan for completing each alternative. Costs should be included.
26. Steering Committee Meeting. The Steering Committee should review recommendations and suggest elements of the Phase II Action Plan.
27. Prepare Final Report. (4 weeks)
28. Steering Committee Meeting. Receive and review the final report. Carry forward for decisioning.
29. Project Ends. 30 weeks elapsed time.

Definitions

Sensory Multihandicapped - students whose visual and/or hearing impairment may be accompanied by other handicapping conditions to the extent that the student requires specialized services usually unavailable in programs for handicapped children without visual and/or hearing impairment, or in programs designed for children with visual or hearing impairment only.

Deaf - students whose sense of hearing is non-functional for the ordinary purposes of life and who require special education suitable for students with little or no naturally acquired speech or language.

Blind - students whose vision is non-functional for the ordinary purposes of life and who require special class instruction to develop braille and other learning skills.

Deaf-Blind - students whose combination of auditory and visual handicaps cause such severe communication and other problems that they cannot be accommodated in special education programs for the hearing impaired or for the visually impaired.

Blind Multihandicapped - students whose disabling conditions in addition to a visual handicap, result in an educational handicap so severe that they cannot be accommodated in programs for the visually impaired or in special education programs designed for other handicapped children.

Deaf Multihandicapped - students whose disabling conditions in addition to an auditory handicap result in an educational handicap so severe that they cannot be accommodated in programs for the hearing impaired or in special education programs designed for other handicapped children.

Screening - the process of identifying candidates for assessment.

Diagnosis - a medical evaluation which will identify the type and degree of impairment.

Assessment - the determination of the developmental level of a person as a basis for the preparation of Individualized Educational Programs.

Individualized Educational Program (IEP) - a written statement specifying objectives, content, implementation, and evaluation of the child's educational plan as developed by a team including assessment personnel, the child's teacher, and parents.

Development - a process of growth in cognition, language, social-affective behavior, and motor and life skills.

General Principles

The Planning Team formulated the following general principles which underly the recommendations of the Report.

1. All sensory impaired multihandicapped children, not withstanding their intellectual or developmental levels, should be eligible for resource and support services and educational programs in schools or residential settings.
2. Highly specialized support and resource services on behalf of sensory multihandicapped Alberta children should be provided to school jurisdictions, parents and community agencies by the Government of Alberta.
3. The Government of Alberta should accept responsibility for the facilitation and funding of educational services to sensory multihandicapped children from birth.
4. Non-traditional approaches to curriculum, such as Individual Education Plans, will be necessary to accommodate the special educational needs of this population.
5. The majority of sensory impaired multihandicapped children in Alberta can best be served by existing agencies within local communities if specialized resources and support services are made available.
6. Local school jurisdictions are the most appropriate providers of educational services to all children of school age.
7. Flexibility with regard to age of pupil enrollment, and the duration of school day and school year will be required to meet the educational needs of the sensory multihandicapped population.
8. Some sensory multihandicapped children from rural school jurisdictions can be served most appropriately in programs operated by urban school jurisdictions.

9. A variety of residential provisions to accommodate some sensory multihandicapped children are necessary.
10. A structure to coordinate specialized services is necessary to ensure that all sensory multihandicapped persons in Alberta receive adequate and appropriate services.
11. Local school jurisdictions in Alberta should be responsible financially for the education of sensory impaired multihandicapped children to a similar level of support provided to other handicapped children.

Section II

REPORT AND RECOMMENDATIONS

Introduction

A proposed program for the education and development of sensory multihandicapped children in Alberta is presented under four main headings: administration, resource centers, school programs, and residential services.

Supporting documents appear in the Appendices to the report. Appendix A details cost estimates for the program. Appendix B defines the implementation sequence. Other supporting documents are contained in the volume of Supplementary Materials. In addition, the project team has accumulated a large collection of related resource materials which are catalogued and available.

ADMINISTRATION

For an appropriate educational program to be delivered to the sensory multihandicapped population, policy and funding will be necessary from a number of government departments, particularly Alberta Education, Alberta Social Services and Community Health, and Alberta Advanced Education and Manpower. The strong relationship among various needs of the individual requires that funding on behalf of these individuals be available from a central source.

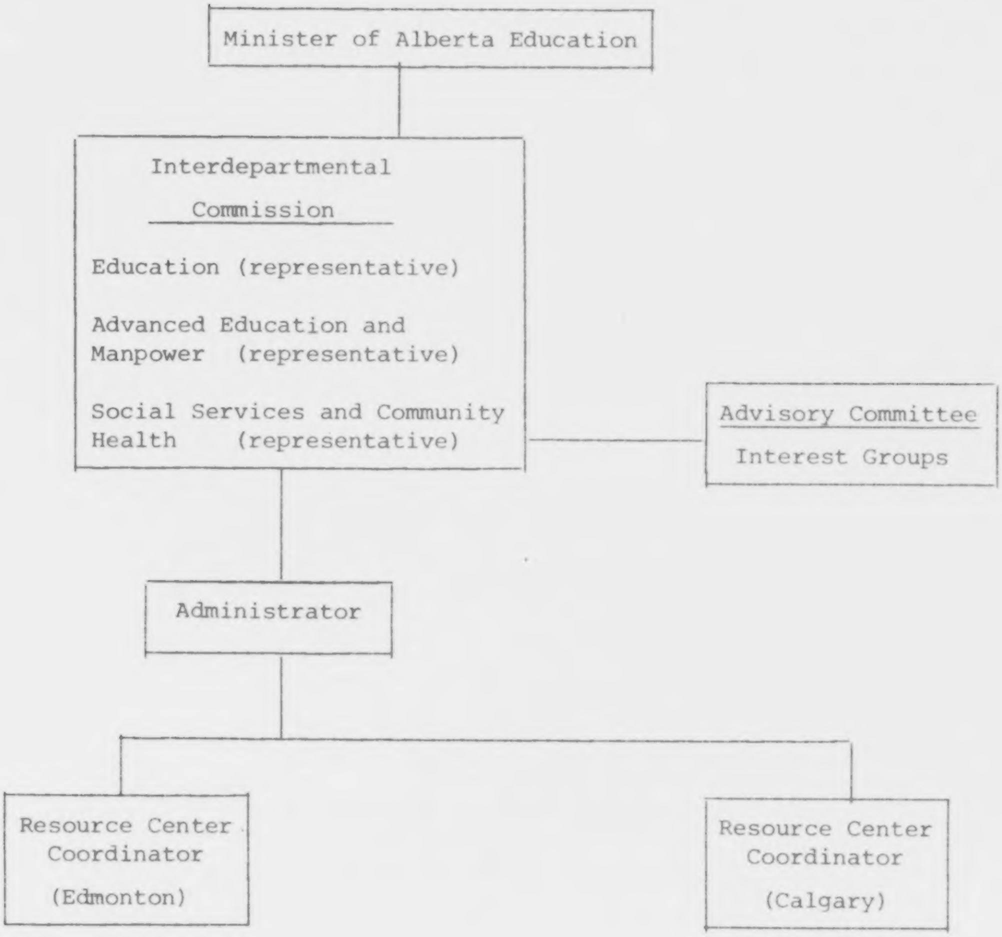
It is more effective and less time consuming for service agencies to deal with one, rather than a variety of government departments. To facilitate the most efficient service delivery pattern, all Government of Alberta funding and policy on behalf of the sensory multihandicapped should be channeled through one government office. It is proposed that this be accomplished through the establishment of a Commission comprised of one representative from each of Alberta Education, Alberta Social Services and Community Health, and Alberta Advanced Education and Manpower.

The organizational structure proposed for this Commission, as outlined in Figure 1, contains elements required for the development of an effective and efficient service delivery model for the sensory multihandicapped. The Commission provides a coordination capability within government. The authority of the Commission to set policy and distribute funding allows for the effective delivery of services to the sensory multihandicapped population.

Figure 1

ORGANIZATIONAL STRUCTURE

OF THE COMMISSION


Minister of Alberta Education
Interdepartmental Commission
Education (representative)
Advanced Education and Manpower (representative)
Social Services and Community Health (representative)
Advisory Committee
Interest Groups
Administrator
Resource Center Coordinator (Edmonton)
Resource Center Coordinator (Calgary)

1.0 Recommendations: Administration

1.1. *That an Interdepartmental Commission be established to monitor budget, policy, and priorities related to the delivery of services to the sensory multihandicapped in Alberta*

1.2. *That an Administrator be appointed to implement the directives of the Commission.*

1.3. *That the governmental departments involved appoint professional and lay representatives to serve as an advisory board to the Commission.*

1.4. *That the Interdepartmental Commission ensure that the Government of Alberta develop:*

  (a) *programs to train teachers, teachers' aides, rehabilitation aides and other specialists to work with the sensory multihandicapped.*

  (b) *educational, residential, vocational and employment programs for the sensory multihandicapped adult.*

RESOURCE AND SUPPORT SERVICES

Very few of the children identified as sensory multihandicapped will flourish in an educational, residential or home program without extensive and highly specialized resources and support services. The nature of the identified population is such that all of the children will be severely delayed in their physical, social, mental and emotional development. These delays do not begin at the age when most children enter school but rather at birth. If some level of independent functioning is to be expected, resource and support services will need to begin as early in the child's life as possible.

The sensory multihandicapped comprise a very small and heterogeneous portion of the general population. Educational programs currently designed to meet the needs of either general or special populations do not have the capability to meet the needs of children who lack one or both of the senses of hearing or vision accompanied by other handicapping conditions. These sensory multihandicapped conditions present educational problems which are unique and complex.

Teachers, parents and others providing services to this population will require constant support from a variety of disciplines in order to adequately meet the educational needs of this unique group of children. In addition, the sensory multihandicapped child will require technical aids, equipment and materials not found traditionally in educational programs. It is not reasonable to expect that local school jurisdictions can provide the comprehensive resource and support services necessary for the implementation of successful programs for sensory multihandicapped children. The most effective and efficient means of providing these crucial services is through centers which will serve a larger geographic area than that encompassed by any local jurisdiction.

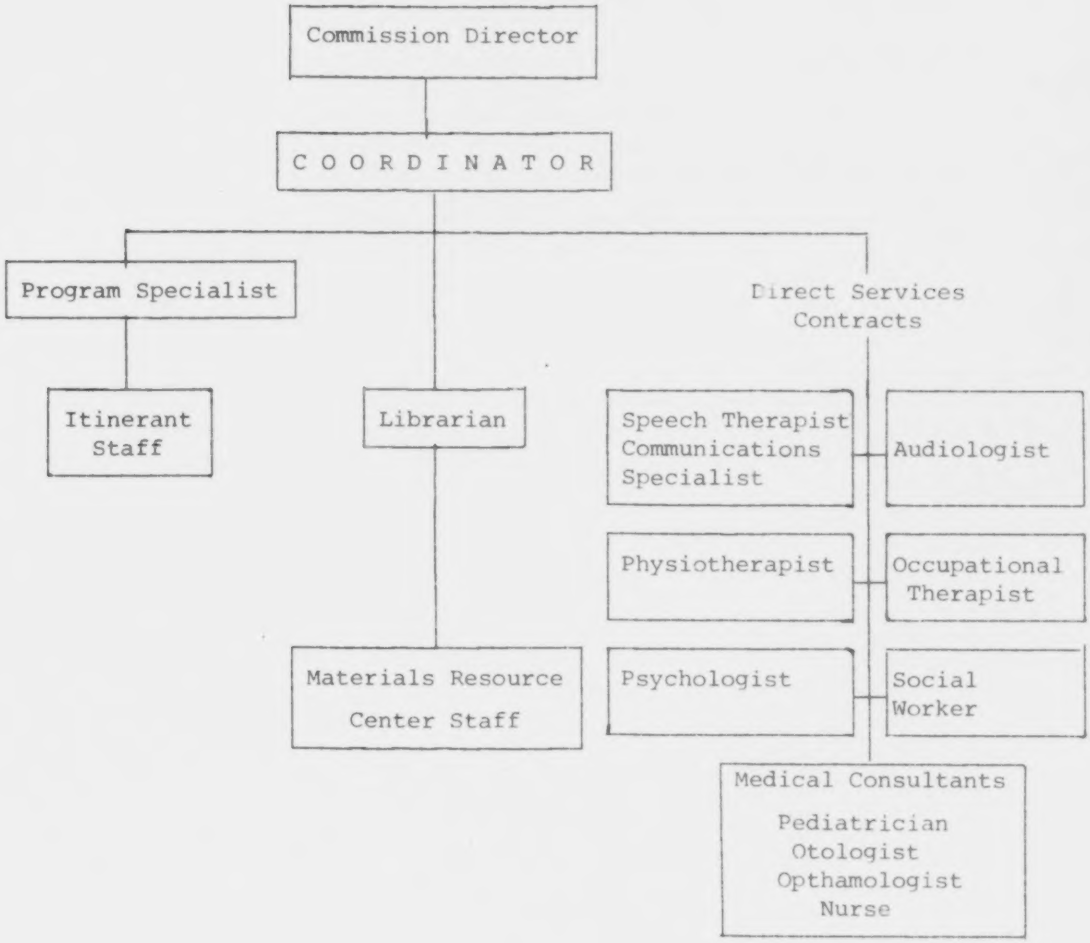
The regional resource centers, presented diagramatically in Figure 2, will provide or coordinate the following services on behalf of sensory multihandicapped children in Alberta:

1. Community Awareness and Involvement
2. Early Identification
3. Early Intervention
4. Assessment and Program Planning
5. Curriculum Development
6. Staff Development
7. Program Consultation
8. Materials and Resources
9. Research and Evaluation
10. Summer Programs
11. Parent Programs

Figure 2

RESOURCE CENTER

ORGANIZATIONAL CHART


Commission Director
COORDINATOR
Program Specialist
Direct Services Contracts
Itinerant Staff
Librarian
Speech Therapist Communications Specialist
Audiologist
Physiotherapist
Occupational Therapist
Psychologist
Social Worker
Materials Resource Center Staff
Medical Consultants
Pediatrician
Otologist
Opthamologist
Nurse

Each resource center will be headed by a coordinator. It will be the duty of the coordinator to liaise with those agencies providing school and residential programs in order to ensure consistent and comprehensive services for all sensory multihandicapped children in Alberta.

A key responsibility of staff in the resource centers will be the development of individual educational plans for sensory multihandicapped children referred for assessment. The resource center staff, in cooperation with school program staff and/or residential program staff, will utilize a transdisciplinary assessment and program planning model in which representatives of various disciplines contribute their individual expertise in addressing a specific set of concerns relating to a child's development. The underlying goal of all assessment, whether it be done in the resource center or in the child's home, will be to develop a comprehensive, individual educational program for the sensory multihandicapped child.

Support and assistance from resource center staff will allow school, institutional and residential staffs to provide for the developmental needs of sensory multihandicapped children through the availability of specific programs, material and equipment. In addition, parents and others providing early education programs will have access to expertise which will allow them to act as interveners for young sensory multihandicapped children.

The staff employed by the resource centers will fulfill a valuable role in providing the human and technical resources necessary for the development of curricular resources, research into the learning styles of sensory multihandicapped children, and staff development activities.

2.0. Resource Center: General Recommendation

2.1. *That two regional resource centers, one in Edmonton and one in Calgary, be developed to provide specialized support and resource services to sensory multihandicapped persons, their parents and programs serving such persons in Alberta.*

2.2. *That the regional resource centers be constructed adjacent to existing public schools which will accommodate programs for the deaf-blind.*

2.0. Resource Center: Service Area Recommendations

2.3. Community Awareness and Involvement

2.3.1. *That Resource Center staff prepare and conduct inservice education activities for parents and professionals.*

2.3.2. *That provisions be made for inclusion in secondary school curricula of information on the prevention of handicapping conditions.*

2.3.3. *That Resource Centers facilitate or provide for the production and dissemination of public education materials through the various media.*

2.3.4. *That the involvement of school students and other community resources on a volunteer basis be encouraged.*

2.3.5. *That career information materials be distributed to students across Alberta indicating the variety of careers and employment opportunities for working with the sensory multihandicapped.*

2.4. Early Identification

2.4.1. *That Resource Center staff liaise with medical and school communities to develop systematic screening and referral procedures to facilitate the early identification of sensory multihandicapped children.*

2.5. Early Intervention

2.5.1. *That Resource Center staff provide or coordinate the provision of home programming for sensory multihandicapped children from the time of identification.*

2.6. Assessment and Program Planning

2.6.1. *That Resource Center staff develop assessment and program planning procedures for all sensory multihandicapped children in Alberta.*

2.6.2. *That Resource Center staff, in cooperation with program providers, provide or facilitate comprehensive assessment and program planning for all sensory multihandicapped children in Alberta*

2.6.3. *That individual educational plans be developed for each child.*

2.7. Curriculum Development

2.7.1. *That Resource Center staff, in cooperation with school program staff, be responsible for the production of developmental guidelines and resources for sensory multihandicapped children.*

2.8. Staff Development

2.8.1. *That highly skilled specialists be employed on a temporary basis to provide training to Resource Center staff.*

2.8.2. *That Resource Center staff assist in the coordination and implementation of staff development programs including in-service, sabbaticals, bursaries, work/study, conference attendance and visitations.*

2.9. Program Consultation

2.9.1. *That Resource Center staff be available for consultation with parents, and with school and residential program operators to assist in the implementation of individual educational plans.*

2.10.Materials and Resources

2.10.1. *That the Alberta Education Materials Resource Center be incorporated into the Resource Centers in Edmonton and Calgary to provide for the acquisition, production and distribution of specialized educational materials, equipment and technical aids for the visually impaired, hearing impaired, and deaf-blind.*

2.10.2. *That an advisory committee of special education consultants be struck to assist in planning for the reorganization of the Materials Resource Center.*

2.10.3. *That aids, materials and equipment be made available to sensory multihandicapped children at the site of program delivery.*

2.11. Research and Evaluation

2.11.1. *That an evaluation process be designed to monitor the implementation of the service delivery system.*

2.11.2. *That research into the education and development of sensory multihandicapped children be encouraged through cooperation with various research communities.*

2.12. Summer Programs

That Resource Center staff, in cooperation with school staff and other government or community agencies, develop individual education plans and facilitate their implementation during July and August.

2.13. Parent Programs

2.13.1 *That Resource Center staff provide parent training and counselling services on an individual and group basis.*

2.0. Resource Center: Staffing Recommendations

2.14. *That the following staff be employed on a permanent basis by the Government of Alberta:*

- 2.14.1. *A. Resource Center Coordinators (2)*
- 2.14.2. *B. Program Specialists (2)*
- 2.14.3. *C. Clerical Staff (4)*
- 2.14.4. *D. Itinerant Staff (4)*
- 2.14.5. *E. Materials Resource Center Staff*
    - *1. Existing (10)*
    - *2. Proposed*
        - *a. Electrotechnical aids technicians (2)*
        - *b. Librarian (Calgary) (1)*
        - *c. Clerical Staff (2)*

2.15. *That the following staff be contracted by the Resource Center on a full or part-time basis as necessary:*

- 2.15.1. *Educational Audiologist*
- 2.15.2. *Speech Therapist/Communication Specialist*
- 2.15.3. *Occupational Therapist*
- 2.15.4. *Physiotherapist*
- 2.15.5. *Psychologist*
- 2.15.6. *Social Worker*
- 2.15.7. *Nurse*
- 2.15.8. *Pediatrician*
- 2.15.9. *Otologist*
- 2.15.10. *Opthamologist*

2.0. Resource Center: Facility Recommendations

2.16. *That facilities be provided to house the Resource Centers in Edmonton and Calgary.*

2.17. *That the facilities be operated in conjunction with regional educational programs for sensory multihandicapped children.*

2.18 *That each facility provide the following specialized areas:*

- 2.18.1. *areas for educational assessment, speech, and occupational, physical and other therapies*
- 2.18.2. *administrative area*
- 2.18.3. *reception area*
- 2.18.4. *therapeutic pool*
- 2.18.5. *gross motor area*
- 2.18.6. *observation rooms*
- 2.18.7. *materials resource center including:*
  - *(1) storage*
  - *(2) transcription area*
  - *(3) taping booths*
  - *(4) library of print materials, public information materials and toy/equipment lending area*
- 2.18.8. *lunch rooms*
- 2.18.9. *parent meeting area/conference rooms*
- 2.18.10. *exterior play ground*

SCHOOL PROGRAM

Trends are universally in the direction of provision of educational services to all children with special needs directly by local school authorities rather than by government schools or agencies. A recent court decision in Alberta indicates that all children of mandatory school age are legally entitled to educational programs and that local school systems are responsible for ensuring provision of programs to all children in their jurisdiction. Alberta school jurisdictions have shown a willingness and capability to provide high quality programs to severely multihandicapped children when additional resource and support services and adequate funds are provided. Therefore, it is appropriate that public school jurisdictions should be requested to plan and provide school programs to serve sensory multihandicapped children.

Seventy-five percent of the sensory impaired multihandicapped population in Alberta has been found to reside in the vicinity of the two largest urban centers. In order to provide opportunities for sensory multihandicapped children with highly specialized educational needs, regional programs for deaf-blind, blind multihandicapped and deaf multihandicapped students will be developed in Edmonton and Calgary. These school jurisdictions would be responsible for assuring school accommodation for students sponsored by other school jurisdictions to programs for the sensory multihandicapped. The program for the deaf-blind should be in the same school as the Resource Center or in a school close enough to the Resource Center to make services readily accessible to the program.

Students requiring residential placement should be accommodated in group or foster homes. Summer programs and programs outside the school day and school year should be arranged by the Resource Center staff.

Educational programs for children in the regional programs will be planned, developed, delivered and monitored on a yearly basis for each child. On occasion, when warranted by their functioning level, students from the regional programs for the sensory multihandicapped may begin to be integrated into programs for hearing or visually impaired, educable mentally handicapped, trainable mentally handicapped students, or other programs or classes.

Specialist assessment and consultative services should be provided to the regional educational program by the Resource Center. One person in each urban school jurisdiction should be responsible for coordinating educational services to sensory multihandicapped children.

3.0. Recommendations: School Program

3.1. *That the Calgary Board of Education and the Edmonion Public School Board be requested to plan for the implementation of public school programs to serve deaf-blind, blind multihandicapped and deaf multihandicapped students.*

3.2. *That a budget for all costs of this planning be presented by the Calgary Board of Education and the Edmonton Public School Board for approval by the Government of Alberta and that these costs be borne by the Government of Alberta.*

3.3. *That an agreement be entered into between the Government of Alberta and the Calgary Board of Education and the Edmonton Public School Board whereby the two school jurisdictions would provide educational programs to all deaf-blind, blind multihandicapped and deaf multihandicapped children recommended for such placement and sponsored by other school jurisdictions.*

3.4. *That the Government of Alberta fund school programs for sensory multihandicapped persons on a per pupil basis and that the funding be equivalent to 90% of the program cost.*

3.5. *That jurisdictions sponsoring sensory multihandicapped students to regional programs be assessed non-resident tuition fees equivalent to the per pupil amount provided by the jurisdiction operating the regional program.*

3.6. *That non-resident fees comparable to those paid by school boards be paid to local school jurisdictions by the Government of Alberta on behalf of deaf-blind, deaf multihandicapped and blind multihandicapped students who are wards of the Government of Alberta.*

3.7. *That after three years of operation, school programs provided to blind multihandicapped, deaf multihandicapped and deaf-blind students by the Calgary Board of Education and the Edmonton Public School Board be evaluated by an independent team selected cooperatively by the Government of Alberta and the local school jurisdictions involved.*

3.8. *That programs for the sensory multihandicapped be utilized as practicum sites for post secondary education institutions.*

RESIDENTIAL SERVICES

A variety of residential accommodations, ranging from foster homes and group homes to institutional settings, will be necessary to provide for those children who require placement outside their family homes. In some cases residential settings will be required because of geographic factors and the need for children to relocate to where their program needs can be best met. In other cases residential placement will be necessary because program needs cannot be met in the child's natural home.

One residential setting in each of Edmonton and Calgary will be utilized to provide short-term accommodation for sensory multihandicapped children and their parents while assessment is being carried out at the Center.

The nature of the sensory multihandicapped often requires that a child be provided a developmental program during most of every day. For this reason, residential staff will be as involved in program provision as is the school. The entire program of some children may best be provided in a residential setting. In some instances, individual educational programs will be developed by resource center staff in cooperation with residential staff. The resource center staff will assist in the implementation of residence based programs.

4.0. Recommendations: Residential

4.1. *That residential placements for sensory multi-handicapped persons of all ages be based on a combination of geographic need and the program recommendations as defined in the IEP.*

4.2. *That one residential site in each of Edmonton and Calgary be utilized to provide short-term residential placement of children and their parents attending the center for assessment purposes.*

APPENDIX A

COST ESTIMATES

APPENDICES

COST ESTIMATES

Introduction

Cost estimates of a program for the sensory multihandicapped in Alberta were developed for the Interdepartmental Commission, the Resource Centers, the school programs, and residential accommodation. Each was calculated according to estimated capital and operating costs. The estimated costs as well as a cost estimate for the total program are presented in the following section.

Interdepartmental Commission

The Interdepartmental Commission will require spaces for an Administrator, a secretary, and meetings of the Commission and advisory groups. The office space will be in existing governmental facilities and may require some renovations to adapt them to their new functions. The total requirement for space would be approximately 700 sq. ft. The cost of renovations would be approximately $10/sq. ft. and per annum leasing costs of $12/sq. ft. On this basis, the total costs for the Interdepartmental Commission are outlined in Table 1.

Table 1
Costs for Interdepartmental Commission

Capital Costs	$	
Office Space (700 sq. ft) x $10	7,000	
Equipment, Supplies	5,000	
Total Capital Cost		12,000
Operating Costs		
Personnel		
Administrator	38,000	
Secretary	12,000	
		50,000
Supplies	12,000	12,000
Total Operating Costs/Annum		62,000

Resource Centers

Two Resource Centers, one in Edmonton and one in Calgary, will be required if the program recommended by the Planning Team is to be implemented. The following figures represent the costs for each resource Center.

Capital Costs. As outlined in the Proposed Specifications for the Resource Centers, a figure of $110/sq. ft. may be a reasonable working figure for this specialized facility, including a therapeutic pool. The assumption was made that each Resource Center will be between 20,000 square feet and 25,000 square feet in area. On the basis of these assumptions, the costs for each Center as presented in Table 2, were calculated.

Table 2
Capital Costs for Resource Center

	for 20,000 sq. ft.*	for 25,000 sq. ft.*
Gross Cost (sq. ft. x $110)	2,200,000	2,750,000
+ 15% for furniture and equipment (excluding MRC lending materials)	330,000	412,500
+ 8% architectural fee	176,000	220,000
+ 1% miscellaneous fees	22,000	27,500
Total Costs (per regional Resource Center)	2,728,000 (excluding land and MRC materials)	3,410,000 (excluding land and MRC materials)
Capital Costs for Two regional Resource Centers	5,456,000* (excluding land and MRC materials)	6,820,000* (excluding land and MRC materials)

* Total square footage and total capital costs are based on new construction figures. Renovation of existing space, such as classrooms, will reduce the new construction required and reduce overall cost.

Operating Costs

Operating costs were calculated on the basis of the numbers and categories of personnel and their salaries, as follows:

Personnel* (per Resource Center)

1	Coordinator (at $35,000)	$35,000
1	Program Specialist (at $28,000)	28,000
3	Clerical Staff (at 12,000)	36,000
2	Itinerant Staff (at $25,000)	50,000
1	Electrotechnical aids Technician (at $20,000)	20,000
1	Educational Audiologist (at $25,000)	25,000
1	Speech Therapist/Communication Specialist (at $25,000)	25,000
1	Occupational Therapist (at $25,000)	25,000
1	Physiotherapist (at $25,000)	25,000
1	Psychologist (at $25,000)	25,000
1	Social Worker	25,000
	Medical Consulting	50,000
	Total Personnel Costs/Annum	$369,000*

* Excluding existing MRC staff.

Non-Personnel Costs (Per Resource Center)

Assumption:

Non-personnel costs (according to Abt Associates, 1976) accounted for less than 25% of the total costs of the provider.

Therefore: if 3/4 of the cost is personnel	$369,000
1/4 of the cost is non-personnel	123,000
Total Operating Costs/Annum	$492,000

Operating Costs for Two Resource Centers

Personnel ($369,000 x 2)	$738,000
Non-Personnel ($123,000 x 2)	246,000
Total Operating Costs ($492,000 x 2)/Annum	$984,000

Residential Accommodation

Assumption

1. Seventy-five percent, or 300 of the sensory multihandicapped population live in Edmonton or Calgary. Twenty-five percent, or 100, of the population live outside these cities.
   a. In each region, approximately 25 persons from outside the city will require accommodation in the city because of program needs by the third year of the program.
   b. In each region, approximately 25 persons from within the city will require new accommodation because of program needs by the third year of the program.

   Thus, the total anticipated population requiring residential accommodation in each city is 50, or 100 persons within the two regions.
2. Each group home will accommodate six persons.
3. No live-in staff will be required in the residences.

Table 3 indicates the number of group homes required in each region. Four are required in the first year of operation, another three in the second year, and two more in the third year of operation.

Table 3
Residences Required in Each Region

	Year I	Year II	Year III	Total
Anticipated School Population	50	80	100	100
Anticipated Residential Population (50% of total School Population)	25	40	50	50
Total Number of Residences Required	4	7	9	9

The costs of operating the group homes was calculated on the basis of the following figures:

Capital Costs		
Each group home	$135,000	
Land	70,000	
Total Capital Cost/Residence		$205,000
Operating Costs/Annum/Residence		
Personnel	$63,000	
Non-personnel	22,000	
Total Operating Cost/Annum		$85,000

The capital costs will be spread over a three year period and operating costs will need to increase up to the third year to allow for the operation of the new residences. As indicated in Table 4, the total capital cost over the three years in the two regions will be $1.8 million, and by the third year of operation the annual operating costs for 9 group homes in each of the two regions will be $765,000/annum.

Table 4
Regional Residential Cost Estimates

Regional Cost Estimates	Year I	Year II	Year III	
Number of Residences Required	4	7	9	
Capital Costs (at $205,000/residence)	$820,000	$615,000	$410,000	$1,845,000
Operating Costs				
Personnel	$252,000	$441,000	$567,000	
Non-personnel ($22,000/residence)	$88,000	$154,000	$198,000	
Total Operating Costs	$340,000	$595,000	$765,000	
Cost Estimates in Two Regions				
Capital Costs (over three years)			$3,690,000	
Operating Costs	Year I	Year II	Year III	
	$680,000	$1,190,000	$1,530,000	

School Program

Capital/Planning Costs

The capital planning costs are based upon the assumption that the school program will need to be phased in over a three year period. Therefore the total capital/planning costs are spread over three years. The anticipated population, planning and space considerations required during the three year period are outlined in Table 5.

Table 5
Anticipated Regional Population, Planning, and Space Considerations for a School Program

Anticipated Population (each urban center)	Year I	Year II	Year III	Totals for Two Regions by Year Three
Deaf-Blind	10	16	20	
Deaf Multihandicapped	20	32	40	
Blind Multihandicapped	20	32	40	
Total	50	80	100	200
Anticipated Schools Required	3	5	6	12
Anticipated Classroom Space Required (each urban center)	10	16	20	40
Anticipated Planning				
Personnel				
Supervisor (6 mos)	1	-	-	2
Secretary (6 mos)	1	-	-	2
Supplies, Equipment, Services	1	-	-	2

Capital cost estimates for school program requirements are indicated in Table 6.

Table 6
Cost Estimates for
School Programs in Two Regions

		Year I	Year II	Year III	Totals
School Renovations Required (at $3,500/unit)	Number Required	6 schools	4 schools	2 schools	12 schools
	Cost ($)	$21,000	$14,000	$7,000	$42,000
Furniture, Equipment, Supplies (at $5,000/classroom)	Number Required	20 classrooms	12 classrooms	8 classrooms	40 classrooms
	Cost ($)	$100,000	$60,000	$40,000	$200,000
Planning Personnel Supervisors (at $20,500)	Number Required	2	-	-	
	Cost ($)	$41,000	-	-	$41,000
Secretaries (at $6,600)	Number Required	2	-	-	
	Cost ($)	$13,200	-	-	$13,200
Supplies, Equipment (at $1,000/unit)	Number Required	2	-	-	
	Cost ($)	$2,000	-	-	$2,000
Total Costs/Annum ($)		$177,200	$74,000	$47,000	$298,200
Total Capital/Planning Costs					$298,200

Operating Costs/Annum

The operating costs/annum have been calculated for the first year of operation on the basis of a population of 10 deaf-blind children, 20 deaf multihandicapped, and 20 blind multihandicapped. As noted in Table 5, the population served is expected to double by the third year of the program. Thus operating costs at that time also can be expected to double.

The operating costs are largely dependent upon the staffing ratio which, in turn, will be dependent upon the age, degree and nature of handicap of children in the class. Table 7 displays the costs for the education of various sensory handicapped children using different classroom staff ratios.

Table 7

Per Pupil Cost Reflecting Different Staffing Ratios*

	Students	Teachers	Aides	Classroom Staff Ratio	Per Pupil Cost (classroom staff)	Per Pupil Cost (non-classroom staff) *	Transportation	SES	Total Per Pupil Cost
Deaf-Blind	3	1	1	1.5:1	12,333	2,895	1,017	150	16,395
	10	3	3	1.67:1	11,100	2,895	1,017	150	15,162
	8	2	2	2:1	9,250	2,895	1,017	150	13,312
	5	1	1	2.5:1	7,400	2,895	1,017	150	11,462
Deaf Multi-Handicapped	8	2	2	2:1	9,250	2,895	1,017	150	13,312
	6	1	1	3:1	6,166	2,895	1,017	150	10,228
Blind Multi-Handicapped	8	2	2	2:1	9,250	2,895	1,017	150	13,312
	6	1	1	3:1	6,166	2,895	1,017	150	10,228

* Non-Classroom Staff Costs	$
P.S.A. Time	190
Counseling	160
Caretaking	235
Secretarial	70
Consultant	560
Therapies (Speech, Occupational and Physiotherapy)	1680
Total Non-Classroom Staff Costs	2895

The per pupil cost ranges between $10,228 and $16,395.

Table 8

Total School Program Operating Costs

Cost	Per Region			Two Regions		
	Year I 50 students	Year II 80 students	Year III 100 students	Year I 100 students	Year II 160 students	Year III 200 students
Lowest ($10,228)	511,400	818,240	1,022,800	1,022,800	1,636,480	2,045,600
Highest ($16,395)	819,750	1,311,600	1,634,500	1,639,500	2,623,200	3,279,000

As indicated in Table 8, when the lowest and highest cost figures per pupil are extrapolated to the maximum figures anticipated, the total costs for the two regions to serve an anticipated 200 students by the third year of operation will be between $2 million and $3.3 million.

Some portion of these costs will be borne by the Government of Alberta and some will be borne by the school jurisdictions. Table 9 displays the costs to school boards when Government of Alberta grants range from 55 to 90 percent of the program cost.

Table 9
Program Costs to School Boards

Program	Cost/Student	Range of Possible Provincial Subsidy %	Alberta Education Grants				Cost to Local Board
			SFPF	Transportation	Per Pupil Grant	Total Subsidy	
Deaf-Blind	16,395	55	1,200	855	6,962	9,017	7,378
		65	1,200	855	8,601	10,656	5,739
		75	1,200	855	10,241	12,296	4,099
		85	1,200	855	11,880	13,935	2,460
		90	1,200	855	12,700	14,755	1,640
	15,162	55	1,200	855	6,284	8,339	6,823
		65	1,200	855	7,800	9,855	5,307
		75	1,200	855	9,316	11,371	3,791
		85	1,200	855	10,833	12,888	2,274
		90	1,200	855	11,591	13,646	1,516
	13,312	55	1,200	855	5,267	7,322	5,990
		65	1,200	855	6,598	8,653	4,659
		75	1,200	855	7,929	9,984	3,328
		85	1,200	855	9,260	11,315	1,997
		90	1,200	855	9,926	11,981	1,331
	11,462	55	1,200	855	4,249	6,304	5,158
		65	1,200	855	5,395	7,450	4,012
		75	1,200	855	6,542	8,597	2,865
		85	1,200	855	7,688	9,743	1,719
		90	1,200	855	8,261	10,316	1,146
Deaf Multi-handicapped	13,312	55	1,200	855	5,267	7,322	5,990
		65	1,200	855	6,598	8,653	4,659
		75	1,200	855	7,929	9,984	3,328
		85	1,200	855	9,260	11,315	1,997
		90	1,200	855	9,926	11,981	1,331
	10,228	55	1,200	855	3,570	5,625	4,603
		65	1,200	855	4,593	6,648	3,580
		75	1,200	855	5,616	7,671	2,557
		85	1,200	855	6,639	8,694	1,534
		90	1,200	855	7,150	9,205	1,023
Blind Multi-handicapped	13,312	55	1,200	855	5,267	7,322	5,990
		65	1,200	855	6,598	8,653	4,659
		75	1,200	855	7,929	9,984	3,328
		85	1,200	855	9,260	11,315	1,997
		90	1,200	855	9,926	11,981	1,331
	10,228	55	1,200	855	3,570	5,625	4,603
		65	1,200	855	4,593	6,648	3,580
		75	1,200	855	5,616	7,671	2,557
		85	1,200	855	6,639	8,694	1,534
		90	1,200	855	7,150	9,205	1,023

Annual costs to the school boards by the third year of operation are indicated in Table 10.

Table 10

School Board Costs by Year Three

Cost/Pupil	Percentage of Provincial Subsidy/Pupil		School Board Costs For 100 Students in the Region		Government Costs For 200 Students (Two Regions)	
	55%	90%	55% Subsidized	90% Subsidized	55% Subsidized	90% Subsidized
Lowest ($10,228)	4,603	1,023	460,300	102,300	1,125,000	1,841,000
Highest ($16,395)	7,378	1,640	737,800	164,000	1,803,450	2,951,100

Total Costs

Total costs reflect capital costs for two regions over the three year implementation period and anticipated operating costs by the third year of operation.

Capital/Planning Costs	$298,200
Operating Costs (Range reflects the variance in subsidization and student-staff ratio)	
School Boards	$164,000 to 460,300
Government of Alberta	$1,125,000 to 2,540,000

Summary

A summary of costs for a program to serve the sensory multihandicapped is displayed in Table 11.

Table 11

Summary of Program Capital
and Operating Costs*

Component	Capital		Operating/Annum		Fiscal Responsibility
	Per Region	Two Regions	Per Region	Two Regions	
Commission	-	12,000	-	62,000	Government of Alberta
Resource Centers	2.7 M to 3.4 M**	5.5 M to 6.8 M**	500,000	1.0 M	Government of Alberta
Residential Accommodation	1.8 M	3.1 M	765,000	1.5 M	Government of Alberta
School Programs	150,000	300,000	1.0 M to 1.6 M ***	2.0 M to 3.3 M ***	Government of Alberta/ Local School Boards
Total		9.5 M to 10.8 M		4.6 M to 5.9 M	

* Figures over $100,000 are rounded to the nearest $100,000 in 1979 $.

** These figures do not include the cost of land or MRC materials.

***These are the anticipated per annum costs when the program is in full operation by Year 3, based upon 1979 $.

APPENDIX B

IMPLEMENTATION OF A PROGRAM FOR THE SENSORY MULTIHANDICAPPED IN ALBERTA: SEQUENCE OF EVENTS

Implementation of a Program for the Sensory Multihandicapped in Alberta: Sequence of Events

1.0 Planning Team report is submitted.

2.0 Minister announces decision to implement a program to serve the sensory multihandicapped.

2.1 School Boards in Edmonton and Calgary are requested to provide regional programs for the sensory multihandicapped.

2.2 Funding is provided to Edmonton Public School Board and Calgary Board of Education for planning programs for the sensory multihandicapped.

2.3 An Interdepartmental Commission is appointed.

2.4 A Commission Director is appointed.

3.0 Budgets are developed for the Commission.

(a) school program grants

(b) capital costs of Resource Centers

(c) staffing and program costs of Resource Centers

(d) capital costs for group homes

(e) staffing and residential program costs

(f) early intervention program costs

(g) costs for planning pre-vocational and vocational programs

(h) costs for implementing pre-vocational and vocational programs

4.0 Resource Center staff positions are created.

4.1 Recruitment of Resource Center staff proceeds.

(a) Coordinators

(b) Program Specialists

4.2 Planning of residential and adult pre-vocational and employment programs begins.

4.3 Temporary accommodation for Resource Center staff is secured.

5.0 Architectural planning for Resource Centers is commissioned.

6.0 Coordinators and Program Specialists are employed. Recruiting of additional Resource Center staff begins.

7.0 Resource Center services commence.

8.0 Residential placements for sensory multihandicapped students not residing at home while attending urban school programs are secured.

9.0 School programs for groups of deaf-blind, deaf multihandicapped and blind multihandicapped begin (implementation schedule to be arranged by Edmonton Public School Board and Calgary Board of Education)

9.1 Procedures for the on-going evaluation of the service delivery model developed.

10.0 Resource Centers fully staffed.

10.1 Full services to the sensory multihandicapped available.

11.0 Evaluation of the service delivery model completed.

SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

Supplementary Materials

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SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

Supplement # 1

A Review of the Literature

Summary of Key Points From the Literature Review

Any program for the Sensory Multihandicapped should have:

1. A Continuum of Services which will include:
   - a. Prevention - a public education component
     - a medical prevention/immunization and research component
   - b. Early Identification/Screening - a "child find" program, possibly integrated with public education program
     - a pre-school screening program - by pediatricians and public health services
     - a school screening program
   - c. Referral Procedures - a rationalized referral process, after identification, for assessment
   - d. Assessment - use a team approach to develop a comprehensive Individual Education Program (IEP for assessees
   - e. Placement - in a setting where the child's educational needs can be best met
   - f. Service Options - a variety of options exist (see Cascade model)
     - all of the options are feasible and may be used in conjunction with one another
     - someone is required to be responsible for the identification, referral, placement sequence and subsequent follow-up.
   - g. Curriculum and Instruction - should include
     - content, rationale, methods, measurement, rate of proficiency, task and task material, transference, independence

h. Vocational Services - should include

- activity centers - providing perpetual educational, social, and health care
- vocational training programs (sometimes called sheltered workshops)
- vocational rehabilitation center - a short term employability assessment and vocational preparation center

i. Parent Programs - which will include counselling, education, training, respite care, and a supporting parent organization

j. Program Evaluation - the necessity for periodic program evaluation to ensure delivery of quality services

2. Human and Technical Resources

Staffing

a. Staff Categories (all providers)	b. Ratio
1. Administrator	.11/client
2. Medical Doctor	.002/client-higher in residential or mixed providers
3. Psychiatrist	.002/client-higher in residential or mixed providers
4. Psychologist	(figures not available)
5. Social Worker	.02/client
6. Therapist	.05/client
7. Nurse	(figures not available) higher in residential or mixed providers
8. Attendant	.20/client-higher in residential or mixed providers (.31 for D/B)
9. Teacher (Certified)	.13/client-higher in small providers
10. Teacher Aide	.26/.21 for teacher/teacher aide of deaf-blind
11. Support Staff	.15/client-higher in residential or mixed providers
12. Others (e.g. research staff)	

General Rules

Among providers serving the deaf blind, very high staff:client ratios existed in categories of teacher (.26), teacher aide (.21) and attendant (.31) while ratios were below average for all other staff categories. Public providers had an average of .98 staff members per client as compared to .70 for private providers. There were an average of 0.85 full-time equivalent staff per client served over all providers. The largest share of all personnel costs was attributed to the provision of educational/habilitative services (certified teachers, attendants and administrators incurred the largest expenditures).

c. Training - there are requirements for both university and inservice training.

Facilities - Options include:
1. no facilities
2. regular classes
3. resource rooms
4. special classrooms
5. special day schools
6. home facilities
7. residential schools

- Day or Residential? The type of provider required will depend upon the need to be filled. Abt Associates (1976:159) states:

> ...In sum, if the amount of educational and habilitative services offered a severely handicapped client is a primary goal of a policymaker or a program planner, then it appears that mixed providers offer the most;

> residential providers offer the next highest number of hours; and, day providers offer the least but allow for additional educational and habilitative service for the client outside of program hours (from the parents or other sources). The formulation of any general policy in the area of programs for severely handicapped youth should begin with the realization of the qualitative and quantitative differences between these provider types....The results of this study suggest that the total size of the provider and the number of severely handicapped youth served in the provider are positively related to quality. However, an important caveat that should not be overlooked is that beyond a certain size, on both of these size dimensions quality deteriorated rapidly. Hence, it would appear that large institutions with large concentrations of severely handicapped youth may not be ideal provider environments for care of severely handicapped youth.

- Centralized or Decentralized siting. No data could be found to substantiate either view. The one major report which discusses the process of decentralized planning for decentralized siting was presented by Murray (1975).

- Funding: In general, the bulk of revenue for services is derived from government sources.

  - Personnel account for the bulk of costs, particularly educational/habilitative staff
  - Non-personnel expenditures are less than 25% of the total cost

Quality Indices

Variables generally positively related to costs are:

1. high percentage of staff time spent on educational/habilitative tasks;
2. staff development opportunities; and
3. evidence that clients receive educational/habilitative services after discharge from the provider

Variable negatively related to cost was parental involvement with their child.

3. Coordination

Two major provincial coordinating options appear to exist:

1. Interagency Coordinating Council (a cooperative of concerned agencies).
2. Provincial Coordination of Services
    a. a department or sub-departmental unit which undertakes to provide an efficient flow of services
    b. an individual serving as a Provincial Coordinator of Services for Sensory Multihandicapped

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MISSION OF THE PROJECT

To plan a comprehensive program for the education and development of children who are sensory multi-handicapped and to determine the organization, facilities, and financing necessary to implement the program.

PART I

GOALS OF A PROGRAM FOR THE SENSORY MULTIHANDICAPPED

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The review of the literature indicates that the goals of programs for the sensory multihandicapped are as follows:

a. to provide free educational opportunity to all children, including the handicapped, as a basic right;

b. to promote the functional independence of dependent persons to the extent possible while respecting their individual rights and dignity;

c. to provide the opportunity for handicapped individuals to be educated in the least restrictive environment appropriate to their needs;

d. to provide a continuum of services for the provision of educational needs of the handicapped;

e. to coordinate with and assist parents and agencies within the community to provide the handicapped with the needed services on the most effective and efficient basis;

f. to develop evaluative criteria for any program which is developed;

g. to ensure that support services to provide a quality educational program are available;

h. to develop community participation and support;

i. to develop an educational research capability so that new methods and materials can be identified or developed, and implemented to help the sensory multihandicapped.

The goals of a program for the sensory multihandicapped rest upon a series of important assumptions:

a. handicapped children can be educated and/or trained for more complete, productive, and self-fulfilling lives;

b. the needs of this particular group are of such a specialized nature that no single solution to their needs is feasible; therefore, a multiplicity of service options of a highly individualized nature will be necessary;

c. the need for early intervention, and follow-up during and after the program will necessitate coordination with families and community agencies;

d. programs for the handicapped must be accountable for their services; and

e. significant investments of human and technical resources will be required for a successful program.

PART II

DEFINITIONS

DEFINITIONS OF THE SENSORY MULTIHANDICAPPED

Introduction

A review of the literature regarding definitions of the sensory multiply handicapped reveals no single unifying criterion that delimits the term. Some definitions may be restricted to sensory handicaps with no cross-reference to compounding disabilities. Other definitions will be most appropriate for use by the medical community, and not useful for the educational or legal communities, or vice-versa. Some definitions are broad, others narrow. Some definitions identify type of loss, cause of loss, age of onset and level of impairment; others do not include all of these factors. Some definitions tend to be exclusive, others inclusive.

To some extent, the definitional confusion is being resolved through the continued, refining efforts of the research community and through some legislated definitions, such as are used in the U.S.A. to define such populations as the hearing impaired-developmentally disabled (Public Law 94-103 of 1975). However, in spite of the increasing definitional sophistication regarding the sensory handicapped, any definitions currently being used are not likely to be acceptable to all professions, or persons, or to define completely the special population to be served.

In addition, the problem of labelling as it relates to the definition of the sensory multihandicapped was raised occasionally in the literature. In general some labels were seen as necessary since labels, or definitions, and their accompanying criteria for program elegibility establish a framework within which the process of appropriate identification, evaluation and educational programming can be accomplished for individual children. To the extent that these definitions and criteria establish such a framework, they were conceived to be necessary and appropriate.

Three forms of definition were identified in the literature. First, the generic definition was an attempt to broadly describe the grouping of individuals who might be sensory multihandicapped and who might require special services. The second definition was medical in nature in the sense that these definitions included such medical concerns as etiology, medical diagnosis, decibel loss and so forth. The third form of definition was functional in nature and indicated a child's functioning levels regarding specified curricular areas.

Generic Definition

For the purposes of this project, those persons described as sensory multihandicapped are persons with visual and/or hearing impairment which may be accompanied by other handicapping conditions to the extent that the child requires specialized services usually unavailable in the programs for handicapped children without visual and/or hearing impairment, or in programs designed for children with only visual or hearing impairment.

Medical Definition

Specific medical definitions include four factors: the type of impairment, the etiology (cause of impairment), the age of onset, and the degree of impairment.

Type of Impairment. Four types of impairment have been identified for the purposes of this study:

1. Visual impairment plus either developmental impairment and/or orthopedic/organic impairment;
2. Hearing impairment plus either developmental impairment and/or orthopedic/organic impairment;
3. Hearing-Visual impairment; and
4. Hearing-Visual impairment plus either developmental impairment and/or orthopedic/organic impairment.

Healey (1975:7) defines hearing impairment as:

> ...a generic term indicating any loss of hearing... as indicated otologically, audiometrically, and functionally. The term generally includes the subclassifications of deaf and hard of hearing.

Visual impairment could be similarly defined. Visual impairment is a generic term indicating any loss of sight as indicated medically, or functionally. The term generally includes the subclassifications of blind and partially sighted.

A slight modification of Stewart's (1978:491) definition for hearing impaired/developmentally disabled can provide a definition for developmental impairment. A developmental impairment is:

> ...attributable to mental retardation, cerebral palsy, epilepsy, autism or any other condition of a person found to be closely related to mental retardation and which is a substantial handicap that can be expected to continue indefinitely.

The developmental disability may range from mild to profound as indicated medically, or functionally. In addition to the subclassifications identified by Stewart (1978), such subclassifications as emotional disturbance, behavioral disorders, aphasia and other generalized disorders of the central nervous system might be included in this category.

The orthopedic/organic impairment category includes orthopedic disabilities and organic malfunctions, such as heart disease and other physical malfunctions and diseases, so severe that they impair the individual's ability to learn and prevent him from functioning effectively.

Etiology of Impairment. The causes of the various impairments are extensive and will not be catalogued in detail. Suffice it to say that the etiology of impairments is important to the potential education of an individual. For example, whether a blind child is suffering pain as a result of congenital glaucoma, or may have brain damage associated with optic atrophy, or have a regressive condition such as Usher's Syndrome may affect behavior and learning (Cruickshank and Johnson, 1975:305) and ultimately may affect the individual's capacity for education. Thus the etiology of impairment becomes a significant factor for the potential education of an individual.

Age of Onset. Five ages of onset have been identified for the purposes of this study:

1. Congenital;
2. Early Childhood;

3. Primary School Age;
4. Secondary School Age; and
5. Young Adult

Congenital refers to pre-birth. Early childhood encompasses the period from birth up to and including the chronological age of five. This age group may be further divided into the pre-language and post-language groups. Primary school age encompasses the chronological ages of six up to and including age twelve. Secondary school age encompasses the chronological ages of thirteen up to and including age eighteen. The young adult category encompasses age nineteen up to and including age twenty-three.

The level of development at which an individual is operating at the age of onset is important for the prognosis for the individual. For example, the congenitally deaf-blind child has never had any visual or auditory experience and the strategies which are appropriate to this child may not be appropriate for the adventitiously deaf-blind child of primary age. The primary school age child will have visual and language memories upon which to build, whereas the congenitally deaf-blind child does not. Thus the age of onset, as a rough indicator of the developmental level of the individual, becomes an important factor in defining the handicap(s) of the individual.

Degree of Impairment. Four degrees of impairment have been identified for the purposes of this study:

1. Mild;
2. Moderate;
3. Severe; and
4. Profound

In some instances, the degree of impairment will be a matter of individual judgement by experts/professionals. However, some types of impairment have clinical standards which can be used to define the severity of the impairment. Examples are provided in Table 1. These examples are intended to be illustrative only and not inclusive of the levels of severity in all categories of disability.

In addition, the disability or level of severity is increased exponentially for each additional disability beyond one. In other words, each disability beyond one is not simply additive, but is a compounding disability and the overall effect is multiplicative, not additive.

Functional Definition

A functional definition for the sensory multihandicapped refines the generic definition and medical definition factors through the specification of behavioral skills within specific curricular areas. The behavioral skills and curricular skills are not related directly to each factor, but cut across the factors to provide a behavioral assessment for individual cases.

Table 1

Examples of Degrees of Impairment

Type of Loss Measurement Degree of Impairment	Hearing Impairment (modified from Healy, 1975) dB		Visual Impairment (Hatch, 1979) (Church et al., 1974)		Mental Retardation (Healey, 1975) Measured Intelligence	
	ASA reference (1951)	ISO reference (1964)			Stanford-Binet & Cattell**	Wechsler Scales +
Mild	16-29 *Difficulty only with faint speech	27-40	- central visual acuity of 20/70 or less in the better eye with correction		67-52	69-55
Moderate	30-44 *Frequent difficulty with normal speech	41-55	- central visual acuity of 20/100 or less in the better eye with correction		51-36	54-40
Severe	45-79 *Frequent difficulty with loud speech; can understand only shouted or amplified speech	56-90	Legally Blind	- central visual acuity of 20/200 or less in the better eye after correction - widest diameter of the visual field is no greater than 20 degrees *Print reader	35-20	39-25
Profound	80 or more *Usually cannot understand even amplified speech	91 or more		*Braille User	19 and below	24 and ⁑ below

* functional indicators
** standard deviation = 16
+ standard deviation = 15
⁑ Extrapolated

The Priority Needs Assessment Scale (Southbury Training School Staff, 1978) provides a typical outline of the curricular areas and behavioral skills which are used frequently in the assessment and definition of the educational and functional needs of the sensory multihandicapped. (Table 2).

Table 2

Examples of Curricular Areas and Behavioral Skills to be used in Functional Assessment

Curricular Areas	Behavior Skills (Examples)
I Motor Development	Head control Rolling Sitting Ambulation
II Language Development	Pre-language Receptive skills Expressive skills
III Perceptual Cognitive	Visual development Auditory development Tactual development Body image
IV Daily Living Skills	Pre-feeding skills Self-feed skills Dressing/Undressing
V Social Behavior	Interaction with Environment/Peers Leisure Time
VI Pre-Vocational/Vocational	Left to Right Progression Sorting Stacking

Summary of the Definitions of the Sensory Multihandicapped

The sensory multihandicapped population which acts as a focus for this study can be defined in three ways. First the generic definition provides a general and descriptive statement which will be of most utility to those persons responsible for the administration of a program. In this sense, the sensory multihandicapped are defined as those individuals with visual and/or hearing impairment which may be accompanied by other handicapping conditions to the extent that they require specialized services usually unavailable in programs for handicapped persons without visual and/or hearing impairment or in programs designed for persons with visual or hearing impairment only. The second form of definition is the medical definition which includes four factors: the type of impairment, the etiology (cause of impairment), the age of onset, and the degree of impairment. The third form of definition is a functional definition which refines the generic definition and medical definition through the use of specified behavioral skills within specific curricular areas for each individual who is being assessed. This latter definition forms the basis for individual educational programs which can be developed for each sensory multihandicapped individual.

PART III

HISTORICAL PERSPECTIVES

HISTORICAL PERSPECTIVES

Introduction

Over the course of man's history, only in the relatively recent past has the plight of the atypical child who has physical, mental or emotional anomolies become a cause for social action. The reason why the atypical child has become a cause for social action hinges on two factors: (1) a shift in social perspective wherein both typical and atypical human beings are conceived as valued social members, and (2) recent medical advances which facilitate the survival of members of our society who previously were not able to survive because of the social stigmata of their atypicality or because of the medical severity of their handicaps.

The history of the education of multiply handicapped children is very limited partly because the multiply handicapped usually are treated according to the handicap considered most dominant rather than the multiple handicaps. As well, there is little consensus among human service organizations as to who the multiply handicapped are or if they should be recognized as a group separate from others with single handicaps. Research, as an aid to further defining this group, is in an early stage of development. Most studies are estimates of incidence or descriptions of existing programs. Nevertheless, the impetus for research in this area has become more significant in the last decade, largely because of militancy on the part of concerned publics and because of legislative action in the U.S.A.

Sensory multihandicapped individuals include those who have combinations of deafness, blindness, mental retardation, and emotional disturbances. Frequently, these handicaps are further compounded with a variety of physical disabilities. Mental retardation, as a separate handicap, has the longest history. Abt Associates (1974, Vol I: 6) document a history of our knowledge of mental retardation which dates to the Pre-Christian Era in Greece, the Roman Empire, and a variety of primitive societies where "fools" were either considered as "touched by God", or possessed by the devil. The Abt Associates (1974, Vol I:11) claim that:

> ...Next to mental retardation, deafness and blindness, as separate sensory disabilities, have the longest historical background of any of the handicapping conditions. However, there are surprisingly few references to the deaf-blind as an entity. Perhaps the most important contributions to the field have been made by dramatic successes achieved by persons such as Helen Keller and Laura Bridgman. These and a few other instances led to the recognition that special techniques could be used to break through the communication barrier so that the deaf-blind could eventually be educated.

Thus, only within this century have the deaf-blind begun to be considered as an entity separate from the deaf or blind. Programs for the deaf-blind now exist throughout the world.

United States

Concern for the multiply handicapped, particularly those who are deaf-blind, has existed in the U.S.A. since the mid-1800's. The most notable success story is that of Helen Keller. However, there was no concerted effort to accommodate the needs of the multihandicapped until 1964-65. During that time, Dantona (1977:18) claims that:

> ...an estimated 50,000 women contracted rubella, or German measles, during the early months of pregnancy. Some 20,000 of these pregnancies resulted in miscarriages or stillbirths and 20,000 resulted in children born with one or more handicaps. These handicaps included visual impairments, hearing impairments, mental retardation, and a variety of other physical impairments.

Educators, parents, professionals and concerned lay people, fearful that the existing programs and facilities would not be able to handle the increased number of multiply disabled persons, particularly the deaf-blind, pressed Congress for help. The result was an amendment to Title VI of the Elementary and Secondary Education Act (Public Law 90-247, Part C) in 1967 which provided for "...a limited number of model centers for deaf-blind children..." in a regionalized system. By 1969, as Gearheart (1974: 58-73) indicates in a description of Federal legislation for the education of the handicapped, the Education of the Handicapped Act (Public Law 91-230) consolidated all existing legislation for the handicapped into one package. Public Law 94-142 (The Education for All Handicapped Children Act) became effective in October, 1977 and ensured free, appropriate educational opportunities for all handicapped individuals who required special educational services.

In addition to legislative action to aid the handicapped, a series of legal actions, described more fully by Laski (1977:280-298), have been undertaken in the U.S. on behalf of the handicapped, particularly the multiply handicapped. The effect has been the recognition of the concept of equal access to educational opportunity for all handicapped children in the United States no matter what the nature or severity of the handicapping condition(s) may be. Laski (1974: 78) notes that:

> ...perhaps the major future impact of litigation is grounded in the fact that all the decisions and decrees in one way or another accept, promote and give public policy status to two theoretical constructs which have emerged recently to undergird new approaches to service delivery. These constructs, the developmental model of disability and the principle of normalization, have been most widely used in the context of mental retardation and developmental disabilities but are applicable to all disabilities... While the developmental model contemplates intervention to modify both behavior and environment, the normalization principle guides that intervention and requires that the handicapped person have an environment and lifestyle that is as close to normal as possible.

Canada

A Unesco (1971: 58-61) study of the world situation in special education included Canada as one of thirty-eight countries surveyed. The description of special education and policy in Canada notes that:

> ...the laws and regulations governing the education of the handicapped -- as of non-handicapped -- children are found to be in the Education Acts of each Province.
>
> There is no official statement setting out the aims of special education.

The two departments identified as having responsibilities for special education in the Provinces are the Department of Education and Department of Health or Social Services. The services for those with special handicaps, overseen by the provincial authorities, are provided by varying combinations of the provincial authorities, local authorities and voluntary organizations. As in the U.S.A., the major attention in terms of education for the handicapped has been provided to groups with single disabilities such as deafness, blindness, or physical disabilities. Until recently, little attention had been given to those with multiple handicaps. However, in the last few years, some special services have begun to be provided for the sensory multihandicapped, largely through schools for the deaf or schools for the blind. Virtually every province is making some provision for these specially handicapped persons and is making further inquiry as to what additional action can be taken. However, all existing programs appear to be limited in scope and to be adaptations of existing programs for the deaf or blind.

Alberta

In Alberta, the needs of handicapped persons are met through the services provided by the Department of Social Services and Community Health, and Alberta Education. The history of such service can be traced back to 1909, just five years after the granting of provincial status, to the establishment of the Department of Neglected Children (Coulter, 1977). This Department was an outgrowth of a larger social reform movement called child saving, or the care and protection of neglected, and delinquent children, which was prominent in Canada from approximately 1880 to 1920.

More recent activities include the efforts of the Department of Social Services, through the Services to the Handicapped Division, in such projects as the Resources for the Dependent Handicapped.

In addition, the concept of advocacy for dependent handicapped persons, particularly for those who may have been placed in institutional settings in error, is being promoted through the office of the Public Guardian.

Alberta Education has been actively involved in the provision of special education services, through the Special Education Services Branch, since 1960-61. In early 1977, Alberta Education began to consider the special services required for sensory multihandicapped children. The Department's considerations would appear to have anticipated the Carriere case (Alberta Education, 1979) and recent interpretations of Section 136 of The School Act which states:

> 136 (1) A board shall
> (a) accept in its schools every pupil whose parents reside in its district or division, or
>
> (b) direct the pupil to a school in another district or division.

The only exception that may be used by school boards is found in section 134 (2):

> 134 (2) A board may temporarily excuse from attendance in a regular classroom any pupil whose special educational needs in the opinion of an inspector or superintendent are of such a nature that regular classroom experience is not productive or is detrimental to the pupil or to the school, until such time as the board with the approval of the parent can arrange the needed special education through attendance in a special class or by entering the child in a special school or in any other suitable manner.

In a legal opinion to the Edmonton Public School Board (April 11, 1979), the lawyer for the Alberta School Trustees Association stated that

Section 134 (2) only provides temporary relief and cannot be used to relieve the board of its legal responsibility as laid out in Section 136 (1).

However, the means to provide the type of required service to the handicapped in Alberta currently do not exist in their totality. Some services exist such as the School for the Deaf, but other services for individuals who are sensory multihandicapped either do not exist, or are inadequate for the task demanded of them.

PART IV

A CONTINUUM OF SERVICES

A CONTINUUM OF SERVICES

Overview

The topics outlined in this section are recognized throughout the literature as the key topical areas for the provision of a logical and sound progression of services for the education of handicapped persons. Topics which compose the continuum of services are: prevention of handicapping conditions, early identification/screening, referral procedures, evaluation, placement, educational service options, curriculum and instruction, vocational services, parent program, and program evaluation. These topics are closely related to one another and may overlap in some instances. However, the general framework would be relevant at either a provincial or school district level.

Prevention of Handicapping Conditions

The topic of prevention of handicapping conditions virtually is not discussed in the literature regarding the education of the multiply handicapped. Prevention tends to be discussed more often in social service or medical literature. In the literature which does discuss prevention, two themes appear. One theme concerns public education. The second and more specific theme is medical prevention.

The primary purpose of any public education program is to increase the public's awareness of specific program services. Cross and Goin (1977: 11), in commenting on the activities required to inform the public of the existence of specific program services state that:

> ...Awareness activities might include using television, radio, newspaper, and other media; sending information sheets and letters to community members and parents; establishing and maintaining a toll free telephone hotline service; placing posters and leaflets in banks, grocery stores, laundrettes, beauty parlours, barber shops, libraries, municipal buildings, and churches; and arranging speaking engagements at P.T.A.s, churches; parent meetings, and civic organizations. A prime focus of awareness activities should be local service agencies, professional meetings and the medical community - particularly pediatricians.
>
> An effective way to involve pediatricians in the case-finding process is to gain the support of an influencial member of the medical community and utilize his influence to gain support of other members. In addition to the involvement of private pediatricians it is essential to gain the support of public health nurses and the staff working in clinics.

Medical prevention is the second and more specific theme within the literature regarding the prevention of handicapping conditions. The most obvious medical strategy for prevention is an immunization program where this is feasible. A second strategy for medical prevention of handicapping conditions is research. As critical as this strategy may be, it receives little attention outside the medical literature.

Early Identification/Screening

Newkirk et al. (1978: 39) state that:

> ...The first step in assuring the provision of an appropriate publicly supported education program for all handicapped children is for the children to be identified...The term identification has been limited to those activities which lead to the recognition that a given child has or may have a handicapping condition. Identification is the entry step in which the child first comes to the attention of professionals responsible for assuring that the child is then channeled toward an appropriate evaluation, placement and instruction. Identification itself does not include either evaluation of placement.

Importance of Early Identification/Screening. The literature strongly supports the view that early identification is essential. The sooner children can be identified as requiring special assistance, the more likelihood that those children can function at higher levels than previously believed possible. This is particularly true for those individuals with severe and profound handicaps. However, there is concern expressed in the literature as to whether or not early identification of those with mild or moderate handicaps is beneficial or detrimental. Newkirk et al. (1978: 110) state that the "...negative effects of labelling and expectancy changes of parents and teachers must be balanced against the advantages of early intervention programs."

Screening Process: Pre-School. In the U.S.A. Newkirk et al. (1978) found that screening was one of the main mechanisms through which children were identified as requiring special services. Hayden and Edgar (1977) as reported by Newkirk et al. (1978: 103) define screening as "...the testing of a large population in order to identify those individuals who are most likely to manifest a handicap." The screening process is usually carried out in preschool or at the time of school entrance.

Preschool screening is done most often by pediatricians and public health services in the health delivery system. However, there is evidence to indicate in the U.S. that the poor or near poor, who are more likely to require preventative medical care, are not receiving that care. Thus, since children are not brought together regularly in groups until school age, it is almost impossible to conduct completely effective screening procedures on the population at this early age. Nevertheless, efforts are being made to compensate for the gaps in screening services for the economically disadvantaged. In the U.S., the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program was instituted. The program has been a successful screening program. However, the major deficiency of the program was that once the children with recognized problems were identified, they were not monitored following referral to the provider. As a result, many cases have been lost. Newkirk et al. (1978: 108) concludes that:

> ...With proper case monitoring and cooperation with local special education and other early childhood family focused programs, the EPSDT could become the identification entry point for a sizeable population of children in need of a variety of special services.

The keynote here is that a concerted screening effort must be made if complete coverage of the preschool population is to be accomplished.

Mechanisms for conducting a screening process for preschoolers, of necessity, must be complex and exhaustive. Cross and Goin (1977) and Davis (1977) indicate that locating handicapped children is a community-wide process. These authors identify a number of identification and screening procedures which can be used within the community. An identification and screening campaign needs to be launched wherein interagency cooperation is encouraged in the identification of these children. In addition, two other means have been found to be effective in identifying the handicapped child: canvassing the neighbourhood, and sending forms home on which parents can provide information on preschool children in their families. Media programs aimed at parents appear to have limited success.

Screening Process: School Age. For school age children, there is some evidence that for non-sensory handicaps the most efficient screening can be done by the teacher on a largely informal basis. On the other hand for sensory handicaps, Newkirk et al. (1978: 105) suggests that "...screening for sensory handicaps probably needs to be reserved to professionals or para-professionals specifically trained in procedures."

Once a child is identified as needing or potentially needing specialized educational service due to suspected or identified handicapping conditions, the child is referred for more comprehensive medical and educational evaluation.

Referral Procedures

Newkirk et al. (1978: 108) defines referral procedures as "...a means whereby an individual child is singled out for evaluation." The typical referral system is linear. For example, Newkirk et al. (1978: 108) outline a typical referral system in a school district:

1. identification by the teacher;
2. a referral form requesting further testing is sent to the school principal;
3. principal transmits the referral request to a school psychologist or other appropriate examiner;
4. the evaluation by the psychologist or examiner occurs;
5. a referral is made to the appropriate agency regarding special placement;
6. a team in the agency reviews the validity of the placement request;
7. the placement occurs or the student is placed on a waiting list; or the student is not accepted for one of a variety of reasons.

The major problems with this linear referral system are perceived to be the lack of accountability and the tardiness of the process. As well, the initial referral is dependent upon the varying perceptions of teachers regarding the need for special placement. Some children are less likely to be referred than others in spite of problems of equal severity: acting-out children are referred more frequently than withdrawn children; boys more often than girls, and disadvantaged children more than middle class children. Potential solutions to these problems may be the use of a structured referral form, time limits on the referral-placement process, and out-of-school placement only when appropriate school placements are demonstrated to be unavailable. Similar linear procedures, usually initiated by pediatricians or public health services, are used with pre-schoolers.

Once the child has been referred, a comprehensive evaluation program is carried out to identify the child's special needs, if any.

Evaluation

Evaluation Systems. Various approaches have been or currently are being used to evaluate special needs of handicapped children. Newkirk *et al*. (1978) have identified five approaches:

1. Traditional Approach

The traditional approach to evaluation of handicapped children has involved both diagnosis and assessment. Cross and Goin (1977: 25) define diagnosis as:

> ...a process designed: (1) to confirm or disconfirm the existence of a problem, serious enough to require remediation, in those children identified in the

> screening effort and (2) to clarify the nature of the problem (is it organic, environmental, or both?). The primary purpose of diagnosis is to provide enough information about a child's condition to allow an intelligent decision to be made on the appropriate placement of the child into a treatment program.

Diagnosis has typically included such areas as social history, physical examinations, neurological examination, psychological examination, hearing examination, vision examination, speech examination, and educational examination. Cross and Goin (1977: 35) define assessment as:

> ...the systematic process of (1) collecting information both on a child's level of functioning in specific areas of development and on his learning characteristics and (2) carefully interpreting the information which is collected. The purpose of assessment is to develop a comprehensive and specific educational plan which provides the information that is necessary in planning a day-to-day program for the child. ...For example, diagnosis may reveal that a child is functioning at a three-year-old level in developing motor skills and is essentially having difficulty in developing gross motor or large multiple skills. Assessment will reveal the specific problems skills: such as balancing on one foot, walking up stairs with alternating feet, and hesitancy to attempt to participate in activities that require gross motor skills.

The areas in which assessment have generally occurred are listed by Cross and Goin (1977: 35-36) as:

1. Gross motor or large muscle development (running, sitting and throwing);
2. Fine motor or small muscle development (grasping, bead stringing, cutting, writing);
3. Visual perceptual (visual discrimination between likenesses and differences, visual closure, figure-ground, and spacial relationship);
4. Reasoning (associations, classification, part-whole relationships, sequencing, and quantitative skills);
5. Receptive language (the meaningful interpretation of what is seen and heard, such as following one step commands);

6. Expressive language (the gestures and speech that communicate wants or ideas to others, such as the use of simple sentences and the use of regular plurals); and
7. Social and emotional (the child's feelings about himself and his interactions with adults, peers, and the environment).

Because the developmental areas are interrelated, it is impossible to separate skills in one area from skills in another.

Instruments and procedures used in the assessment process vary widely and only a few appear to be applicable for use with sensory multihandicapped. Davis (1977: 35) notes:

> ...Many tests, checklists, and other assessment tools are available. These range from simple (can-cannot) checklists to packaged test kits which include involved administration instruction and all necessary materials. Tests measure everything from the muscle tone of an infant to mathematical computation skills.
>
> Since the determination of what test to use is determined by age range, type of disability, services available and cost factors, each Project must choose the assessment tools which will best fill their own needs.

Virtually all of the assessment instruments assume certain developmental norms to be operative against which the assessee is measured. The developmental norms will be used for comparative purposes (criterion-referenced tests). A number of examples of the developmental characteristics of children are readily available.

Thus the traditional approach to evaluation can be seen to include a variety of diagnostic and assessment possibilities. Nevertheless, several alternative approaches to evaluation are being advocated currently.

2. Ecological or Systems Approach

The total context in which the child functions is taken into consideration instead of or in addition to the focus exclusively on the child. The child's problem is viewed as being contained partly in the environmental circumstances in which the child resides. Thus the evaluation focuses on the exchanges between the child and his/her setting. The resulting assessment is a profile of the child in a particular setting at a particular time. This form of evaluation requires the active cooperation of all those persons who are in the child's environment such as medical personnel, parents, brothers, sisters and other significant persons. Neighbourhood, church, and school are examples of settings which will have importance for the child. The resulting profile can be used to help the total system which surrounds the child to work.

3. Learning Potential Assessment Approach

This approach is in contrast to the measured intelligence approach which is more traditionally used. Newkirk et al. (1978: 116) defines assessment of learning potential as "...Teaching a previously unfamiliar skill or concept under standardized conditions to determine the child's learning potential under optimum conditions." This approach uses a test-teach-retest sequence wherein the major intent is to describe an individual's pattern of strengths and weaknesses on certain information processing skills and then to create appropriate intervention strategies to develop the weaker skills. This approach has been used primarily with the mentally retarded and may have applicability in other areas, such as when multihandicapping exists. This approach appears to be relatively free of biasing effects such as language, culture and handicapping condition. The product of the learning potential assessment should be a set of immediate instructional goals for use in an intervention program for the particular individual.

4. Behavioral Assessment Approach

As with the learning potential assessment approach, behavioral assessment intends to link assessment to instruction. There are four basic stages of functional analysis. First, the behavior of concern must be accurately described. Secondly, the conditions under which it occurs must be specified. Thirdly, a program of intervention to modify deviant behaviors through strengthening of desireable behaviors must be developed. Fourthly, the behavior must be reassessed to determine whether or not the treatment has had any affect upon modifying deviant behaviors and/or producing desired behaviors.

5. Criterion-Referenced Verses Norm-Referenced Assessment Approaches

Norm-referenced assessment measures capabilities of an individual in comparison to the norms of the population. The major purpose of such testing is to measure performance leading to particular criterion wherein the criterion is a set of standards for accomplishment or mastery. Criterion-referenced testing is thus intended to measure mastery. Thus, as Newkirk et al. (1978: 119) note:

> ...Norm-referenced tests seem to be most appropriate for student classification, while criterion-referenced measures are more helpful for individual program planning.

Norm-referenced tests present a number of problems when used with handicapped persons. The most serious problem in using norm-referenced tests with the handicapped is the lack of appropriate group norms. Even when norms do exist, they may be inappropriate for individual situations. Other major problems arise with norm-referenced tests: lack of standardization data for some handicapped groups (e.g. for severely handicapped children), and inequitable assessment of a minority group. The best method to counter the inadequacy of norm-referenced testing appears to be assessment using multiple sources of relevant data. Tucker (1977) as cited in Newkirk et al. (1978: 121-122) stresses the need for the following types of data:

> ...Observational, language dominance, educational assessment, sensory motor and/or psycholinguistic, adaptive behavior, medical and/or developmental, personality assessment including a self-report, and intellectual assessment.

The method of most appropriately developing the multi-model assessment approach may be a team of professionals. Such an approach should ensure that the child and his needs are considered from a perspective of more than one expert view.

The Team Approach. Renne and Moore (1977: 2-3) define the concepts of the team approach and provide a slight distinction between two modes of the team approach. They state that:

> ...The words "multidisciplinary" and "transdisciplinary" will be used to refer to two separate approaches to evaluation; the use of "interdisciplinary" will be avoided. Multidisciplinary is used to describe an essentially serial evaluation process wherein a child is evaluated, assessed or tested by individual members of a team over some period of time....At some point, team members meet to share the information they have gathered. Depending upon the setting and the individuals involved, the information will be more or less integrated into a composite picture of the child, his functioning and his needs. Information is then shared in some manner with the child's family, his primary physician, the persons responsible for his training or education, and any other persons or agencies involved with the child and family.
>
> The transdisciplinary process, on the other hand, is one in which representatives of the various disciplines contribute their individual expertise in addressing a specific set of concerns....The goal is not to simply add or layer information, but to synthesize the data from all disciplines. Sequencing of evaluations is seen as important and varies as a function of the set of specific problems or concerns to be addressed.

Renne and Moore (1977: 13-14) further explain that:

> ...The goal (of the transdisciplinary process) is a generation of an integrated plan for habilitation which can be implemented in the setting where the child ordinarily operates (home, and/or school). The method to reach the goal is by a sharing of information and skills across traditional disciplinary lines.

Evaluation Results. Lovitt (1967) in Newkirk *et al.* (1978: 122) reminds the field that:

> ...The end product of an evaluation should be to present to the referring agent information that can be immediately transmitted into procedures.

Conclusion. Robbins (1977: 133) comments regarding the assessment of deaf-blind children are equally appropriate for the condition of assessment regarding other sensory impaired children. In the past ten years the efforts of a wide variety of agencies and individuals have focussed on the assessment and programming needs of the sensory impaired. The result is the recognition of the range of influences on the sensory impaired child's learning, including personal and environmental influences. The necessity for a team approach to assessment has been widely recognized. The need for new assessment tools or recombinations of old ones has been recognized. And a wealth of material -- such as tests and developmental guidelines -- exist to guide the assessment process.

Placement

Newkirk *et al.* (1978: 45) states that:

> ...Through the evaluation process, children suspected of needing special educational services are assessed. At the conclusion of the process, the education agency determines whether or not the child has a special educational setting or placement in which the program will be provided. (In the United States) P.L. 94-142 requires that when a determination is made that a child is handicapped and in need of special education, an individual education program (IEP) be designed regarding the specific nature of the education and related services that will be provided to the child.

Philosophical Perspectives. Two major philosophical perspectives regarding placement exist in the literature. The more traditional method is primarily administrative in nature wherein assessment leads to placement in institutions or classes judged to be appropriate or as nearly appropriate as possible to handle the particular disability. The current practice is primarily educational in nature wherein assessment leads to program planning and an IEP for each individual. Both perspectives are considered to be necessary components of any placement decision.

Individualized Education Program (IEP). Anderson and Orr (undated), define an IEP as:

> ...a written statement covering the objectives, content, implementation and evaluation of the child's educational program. It is not a legally binding document but a consensus agreement of proposed educational objectives for the child.

Newkirk et al. (1978: 124) states that the elements of the IEP that deal directly with the placement decision include:

> a statement of specific educational services needed by the child,
>
> a description of the extent to which the child will participate in regular education programs,
>
> a justification for the type of educational placement which the child will have,
>
> objective criteria, evaluation procedures, and schedules for determining, on at least an annual basis, whether the short-term instructional objectives are being achieved.
>
> The concept of the IEP is intended to eradicate the sometimes used placement system of matching the child to various program openings rather than, if necessary, creating new or modifying existing programs.

Since the IEP is written in terms of the services which are required rather than the placements which are available, a greater variety of program options must be available.

Educational Service Options

Newkirk et al. (1978: 102) notes that for low incidence groups such as the sensory multihandicapped there are special problems in delivery systems. In summarizing the views of key figures in the literature regarding the advantages and disadvantages of clustering the handicapped students in one location or dispersing such children throughout a system, Newkirk et al.(1978:102) concludes that:

> ...Advantages of the cluster approach include improved inservice training capabilities through easier communication among staff, simpler provision of related services and particularly those that are medical, and more efficient curriculum development. Advantages of dispersing such students throughout the school district include greater contact with non-handicapped students and proximity to the children's homes. It is likely, however, that for many of these children, an appropriate education will be provided in a highly intensive setting, often including residential facilities. Of the utmost importance, as indicated in the literature, is that quite often the unique learning needs of these children are so individualized that group programming cannot as a rule be the primary vehicle for delivering instruction.

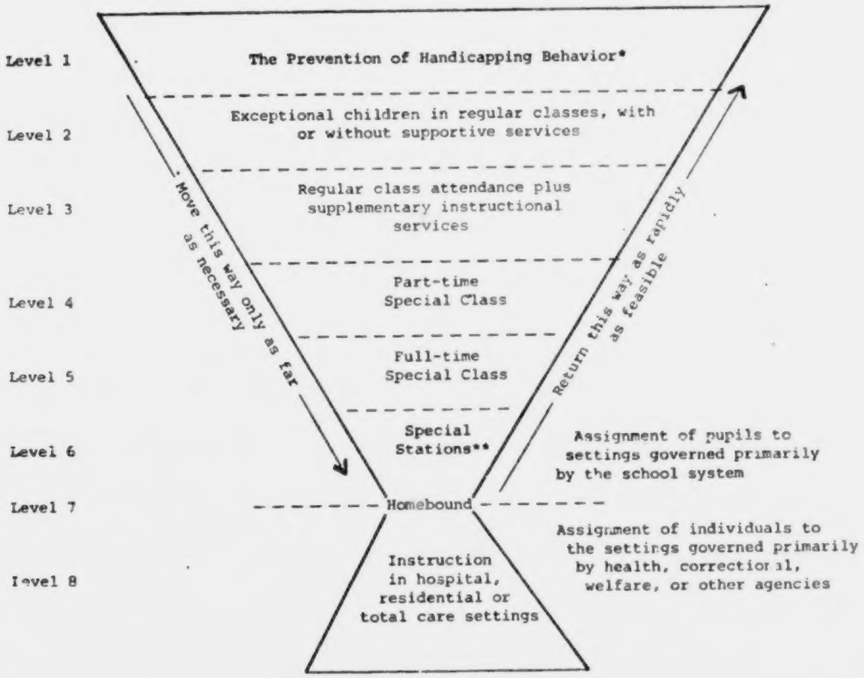
Program Options. The most commonly used conceptual framework used to describe the program options is the cascade system developed by Deno (1970). One such example of the range of options described by the cascade system (Figure 1) was utilized in a Policy Statement by the Council for Exceptional Children. The greater the intensity of an individual child's needs, the greater the distance from the regular program. Criticisms have been made of the cascade model but it still remains as the basic descriptive device for required and/or available special education services.

Placement Personnel. Traditionally the physician's voice has been dominant in the placement process, particularly in cases where severe or profound handicapping is concerned. Increasingly there is the view expressed within the literature, and in fact, that others are required to be active in the placement process, particularly if the intent of the placement is primarily educational.

The people who are viewed as most necessary in such a process are those most involved in implementing the instructional program, that is the teacher, the parents and, where possible, the child.

Accountability. The sequence of identification, referral and placement has inherent problems in terms of who is responsible for the sequence, and who oversees the whole process. No consistent response can be discerned in the literature as to who should be accountable.

- after Evelyn Deno


Level 1
The Prevention of Handicapping Behavior*
Level 2
Exceptional children in regular classes, with or without supportive services
Level 3
Regular class attendance plus supplementary instructional services
Level 4
Part-time Special Class
Level 5
Full-time Special Class
Level 6
Special Stations**
Level 7
Homebound
Level 8
Instruction in hospital, residential or total care settings
Move this way only as far as necessary
Return this way as rapidly as feasible
Assignment of pupils to settings governed primarily by the school system
Assignment of individuals to the settings governed primarily by health, correctional, welfare, or other agencies

*This means the development of positive cognitive, affective, and psychomotor skills in all pupils that will reduce or prevent the frequency of handicapping behavior.

**Special schools in public school systems.

Figure 1
THE CASCADE SYSTEM OF
SPECIAL EDUCATION SERVICE

From: Council for Exceptional Children Policy Statement in B. R. Gearheart, Organization and Administration of Educational Programs for Exceptional Children. Springfield, Ill.: Charles C. Thomas Publishers, 1974, p.242.

Some indications are that involving those responsible for carrying out the development of the IEP increases accountability at the placement level. As well, Newkirk *et al*. (1978: 128) reports that:

> ...accountability is enhanced if most of the handicapped are served within their local school with local school personnel making educational programming decisions. Additionally, the clear identification of one individual as the case coordinator increases accountability.

Conclusion. The program options section has indicated the various physical location options which are available for the placement of students. However, in the location where students have been placed, an organized educational program still must be available. The term used to describe an organized educational program is curriculum.

Curriculum and Instruction

The intent of this section is to provide a very brief overview regarding curriculum and instruction for multiply handicapped persons. A number of reasons for this choice, as contrasted to the choice of developing a curriculum, can be provided:

1. the highly individual nature of the handicapping conditions of the students makes one detailed and comprehensive curriculum impractical, although some method is required for developing a guide which is flexible and provides alternatives;
2. the wealth of materials available makes the development of a curriculum a major task which goes beyond the terms of reference of this project.

Any attempt to prepare guidelines for curriculum development will require a suitable curricular framework. Brown and York (1974) note that, in general, there are at least four basic components of an instructional program: content, method, materials, and measurement. Williams, Brown and Certo (1975: 1-2) expanded the four component model because:

> ...as should be obvious, adherence to the four component model may be necessary, but is not sufficient to provide the best possible instructional services (for severely handicapped students) in that several crucial factors related to the acquisition and performance of specific skills are not taken into account. Thus, the four component instructional program has been expanded substantially and is presented below:
>
> Basic Components of an Instructional Program
>
> I. What skill does a teacher intend for the student to perform (What does a teacher intend to teach the student)?
> II. Why does a teacher want the student to perform a specific skill?
> III. How does a teacher intend to teach the student to perform a skill?
> IV. How can a teacher empirically verify that the skill of concern is being or has been taught?
> V. Can the student perform the skill at a situationally acceptable rate?
> VI. What does a teacher intend to use as vehicles (instructional materials) for the skill to be acquired and performed?
> VII. Can the student perform the skill across:
>   a. Persons;
>   b. Places;
>   c. Instructional Materials;
>   d. Language cues?
> VIII. Can the student perform a skill without direction to do so from persons in authority?

No attempt will be made in this literature review to deal with each component in detail. However, two general comments are required. First, in terms of the content which might be useful in instructional programs for the multiply handicapped in Alberta, a Curriculum Committee for the Resources for the Dependent Handicapped in 1977 already has assembled a listing of curricular content and materials for the RDH program. The criteria used to select materials for the RDH Assessment and Curriculum Manual (1978: i) were:

> ...that the assessment items/instructional objectives were, to the degree possible: 1) compatible with the principles of normalization; 2) able to accommodate multihandicapped students, including those with physical or sensory handicaps; and, 3) directed toward the acquisition of functional, realistic skills.

Currently, the major means of identifying the precise content of an instructional program, from the behavioristic learning perspective, is task analysis. The actual lists of tasks and task materials are extensive and readily obtained from the literature. Secondly, most of the work in special education appears to be within the behavioristic learning theory vein as compared to the cognitive-field theories vein. In fact, Abt Associates (1974: Vol. I, 19) conclude, in their review of treatment and research issues relevant to severely handicapped children that:

> ...The one approach which has shown consistent and repeated effectiveness with the most severe levels of several handicapping conditions is that of operant conditioning or behavior modification. The reinforcement model has been applied most advantageously in connection with precision teaching techniques and programmed instruction ...

> Although operant conditioning has demonstrated its usefulness in the effective areas of emotional and social development, its dramatic success with the teaching of self care and academic skills has been its most outstanding accomplishment.

Vocational Services

Assuming that a multihandicapped person has achieved some degree of independence, the question arises as to the purpose of that independence. In large part, the purpose of teaching independence skills to handicapped persons is to permit them to live as "normal" a life as possible in their own neighbourhoods and communities. The needs of the handicapped which must be attended to in moving from the sheltered teaching environment to alternative social and work settings are varied. The majority of the environments which act as follow-ups to the developmental teaching/learning stages in school-like settings are currently operated in Alberta by the Department of Social Services and Community Health and have traditionally been more oriented towards the problems of the mentally handicapped than to other handicapped persons.

Because of the changes in perspective which have taken place in vocational training in the past few years, the Vocational Rehabilitation Branch of the Alberta Department of Social Services and Community Health compiled a *Vocational Rehabilitation Source File* to outline current philosophies and techniques pertinent to vocational rehabilitation. The source file contains five informative sections. The sections described within the source file are as follows:

1. CONTEXT: which describes the philosophy and the situational forces which must be considered in planning vocational services in the community;
2. SYSTEM: which presents the concepts for the elements required to create a comprehensive approach to help meet vocational needs through the generic community services;
3. IMPLEMENTATION: which discusses strategies and describes resources for initiating vocational services through the generic system at a community project level.
4. PROJECT DEVELOPMENT: which presents guides for developing vocational training curriculum in a community based program; and
5. FACILITY DEVELOPMENT: which presents environmental patterns and standards for developing vocational training facilities integrated into the local community.

Section 2 presents the core elements that are used (or are to be used) to meet the vocational needs of handicapped persons in Alberta. The philosophical assumptions used as a foundation in describing the range of vocational services provided (Source File, undated: subsection 2:30) are outlined just prior to a description of services:

> Vocational services should use a comprehensive approach to meet the full range of different vocational needs of handicapped persons to ensure the availability of programs appropriate to all levels of ability and all degrees of individual need.

In Alberta, this range of service is provided by three levels of programs: activity centre programs, vocational training programs, and Vocational Rehabilitation Programs. These are defined as:

1. Activity Centre Programs - This program is a "social rehabilitation" facility designed primarily for profoundly retarded individuals who will rarely be able to compete in "normal" industry. It stresses interpersonal relationships, social skills, use of leisure time, and independent living skills (such as toileting, dressing, and mobility), rather than production. However, a contract may be utilized at times to achieve goals. An objective may be to give the persons sufficient skills and tolerance to enable him/her to live in the community rather than in an institution. It will be a much longer placement than the other services offer. It will require a higher staff client ratio (1:5) and will necessitate a higher per diem rate. The turnover in trainees will be much lower than other levels of services but the skills acquired from this program should lead to a placement in a program where work-related skills can be learned.

2. Vocational Training Programs - This rehabilitation program, sometimes known as a sheltered workshop or occupational training centre, assesses an individual's work and social skills and prepares the handicapped individual for employment in normal business or a variety of sheltered employment situations. The program content is employment oriented and all skills taught (work, social, and communication) are for the purpose of achieving employment for the trainee. Remuneration is for production, not an allowance, and is paid according to his/her actual performance on the job. In essence, it is an industrial model where work skills and accompanying social skills are learned or reinforced in an atmosphere akin to normal industry. The staff to client ratio should be approximately 1:10.

3. Vocational Rehabilitation Centre Program - A short-term program rarely over 12 months in duration, in which the assessment of vocational potential, social adjustment, and specific social and work skills are taught to ensure employability. The program will also arrange for placement services and follow-up with the trainee for an agreed period of time.

> Home-Bound Programs: An area which has been largely ignored, or at least minimally served in the past, is the home-bound handicapped person. While it should be the goal of every program to provide programming within the community, it is essential that some programs be developed which can make use of the talents of home-bound individuals and provide them with training which will enrich their lives. These programs could range from lessons on using community resources to very specialized academic upgrading courses which could require the use of electronic aids.

Parent Program

Read (1976: 377) has summarized the goal of working with parents as follows:

> 1. To help parents grow in confidence.
>   - a. They will be better able to enjoy their children.
>   - b. They will be better able to make creative use of experience.
>   - c. They will be able to learn about the needs of children and to use this knowledge effectively.
>
> 2. To help parents gain insights and knowledge that may improve their contribution to the child's development.
>
> The teacher who helps a parent feel more confident has achieved an important goal in her work.

Thus parents will require counselling and other support services as well as educational services.

Parent Counselling. The need for parent counselling should become evident when an awareness is developed of what happens to parents when they realize they have a child with a developmental problem. Fallen and McGovern (1978: 306-7) have outlined the stages of parental reaction as follows:

> I. Acute Initial Reactions
>   1. Shock
>   2. Denial and disbelief
>   3. Anger
>   4. Bitterness and shame
>   5. Inappropriate guilt
>   6. Blame

> II. Chronic Adaptive Reactions
> 1. Masochistic reaction
> 2. Overprotection
> 3. Withdrawal
> 4. Unhealthy parent-child relationship
>   a. Rejection
>   b. Compensation
> 5. Doctor shopping
>   a. Searching for a cause
>   b. Searching for a cure
>
> II. Mature Adaptations
> 1. Behavior organized and directed toward maximizing the child's potential
> 2. Healthy and productive motivation toward welfare of family
> 3. Cooperative attitudes and interactions with others
>
> Parental reactions may not occur precisely in this order, and they may not occur separately. Several of the stages may be worked through simultaneously. In many cases a stage that appeared to have been completed may later require a time of reworking with or without professional help.

The counselling process may be provided by professional staff such as social workers or psychologists, by community agencies or parent groups concerned with handicapped children, or by combinations of these resources. The actual counselling process may occur on a ont-to-one basis or in parent group programs. Cober-Ostby (undated: 11) notes that a review of the literature regarding parent group programs indicates that:

> ...a parent group should emphasize educational information, include didactic components, involve the total family, and be designed to meet the parents' convenience needs for location, time and frequency of meetings.

Parent Education. Fallen and McGovern (1978: 94) state that in a nationwide U.S. survey of service delivery systems, conducted by Fallen in 1974, that:

> ...Almost all of the programs capitalized on the widely held belief that there is no better teacher than the parents who have been taught to recognize and to meet the developmental needs of their child. Parent education may include knowledge of the child's program, instruction directed toward improving the quality of family life, and the opportunity to work with other parents. Parent counseling, closely related to parent education, provides services for those families who find it difficult to accept the presence of a handicapped child. Foster parents and other parent substitutes receive the same training and services as parents. Foster grandparents are helped to understand young handicapped children and encouraged to provide grandparent-like favors for children whose parents are absent. This service has been effective in pediatric wards, clinics, and treatment centers.

Other writers such as Fanning (1977) have urged that parents take an active part in the development of the long-range and short-range goals for their child and be considered as an integral part of the team involved in the development of the child. Ward (1978: 83-84) states that parents should be encouraged to:

a. attend informal group meetings to share feelings and experiences.
b. observe the classroom and take part, if possible, in some classroom programs on a volunteer basis.
c. take part in a parent training program which will help to develop their skills to continue school programs at home or to initiate their own programs.
d. take part in daily information sharing process whereby teacher sends home relevant information on the child's activities and behavior that day and the parents send back information on the child's activities and behavior in the evening and morning.
e. attend team meetings about their child.
f. participate in various extra activities such as publishing a newsletter, attending socials, putting up bulletin boards for parents, helping to supervise field trips, organizing special parent workshops or seminars, etc.

It is important that the whole family be involved whenever possible and as frequently as possible.

Parent Training. Parent training is distinctive from parent counselling or parent education. The latter two components of a parent program are geared to familiarizing and involving the parent with the conditions of the child. Parent training prepares the parent to do something to aid the child to learn. The intent of a parent training program is to provide skills to parents to initiate their own programs at home or reinforce programs begun in school. Training programs such as the Multi-Agency Project for Preschoolers (MAPPS) in Arkansas (Baer, 1978) usually involves a preliminary assessment of the child (discussed elsewhere in this report). The assessor, in conjunction with the parent, then chooses the developmental area in which the child should begin learning first. Then parents are provided information through a workshop regarding 1) when to work with the child, 2) where to work with the child, 3) how to keep records, and 4) how to set up a teaching session. A monitor is used as a contact for the parent. Monitoring involves checking records, observing and reacting to parents "teaching", and helping parents to write additional steps into the curriculum.

Parent Organization. Fallen and McGovern (1978: 323) outline the goals of parent organizations as follows:

1. To develop public awareness of handicapping conditions and services needed.
2. To represent children's rights.
3. To disseminate information to other parents and professional personnel on a variety of issues including legal issues, institutionalization, programs, and school placement.

4. To create needed programs including recreational and vocational as well as educational.
5. To support state and national associations.

The need fulfilled by such organizations is one of support for families, but also as lobbyist groups for the specially handicapped.

Respite Care. The burdens imposed on a family with a handicapped child are significant. The health care problems may be attended to, in part, through public health services. However, families sometimes require relief from their heavy responsibilities. Thus the need for respite care facilities has become evident. This type of care may include nursing help, baby sitting, homemakers services, temporary foster home or nursing home/hospital placement.

Volunteers. A volunteer program can be used to aid parents and/or to aid agencies attempting to provide services to the handicapped child. On occassion the parent or family may be part of the volunteer services provided to their own child and other children. Ward (1978: 85) states the role and nature of volunteers as follows:

> ...The volunteers would be responsible for helping with the daily care activities with the students, for example, washing, toileting, moving, etc. as well as running one-on-one programs with specified individuals....
>
> Volunteers must be very responsible people who want to work with dependent handicapped students. They may be High School Students in Work Study, Work Experience of Special Project courses; college or university students involved in related course work....parents of children in the program or people from the community. They must be very reliable and willing to make a definite time commitment to the teacher. They must also be willing to go through some inservice and practicum training by the teacher and/or the director.

Program Evaluation

An array of evaluation theories and methodologies can be used to provide answers to a variety of questions that concern decision makers. For the general reader, a useful overview of various evaluation approaches can be studied in Zaltman, Florio and Sikorski (1977: 260-273). For the purposes of this project, the definition and perspective regarding evaluation which is presented by Moore (1977) will be used. Moore in Cross and Goin (1977: 53) defines evaluation as:

> ...the process of determining whether or not the educational program produced the desired results in the development of the children who entered and completed the programs. The process includes analyzing activities against some standards so that decisions can be made about the effectiveness of the activities in helping the children reach some predetermined end.

Moore further notes that evaluation procedures should be planned at the beginning of a project or program.

Analysis. Analysis involves the collection of information about both the children and the program by using an objective measurement system. Analysis also includes the synthesis of the analysis into a statement of results or findings. The four main means of obtaining information are questionnaires, interviews, observations, or documents. Other means of collection of information will be some derivation or combination of these primary means.

Standards. Standards are the criteria against which the measurement data are compared. Abt Associates (1976) outlined some standards of program quality which were used in a project to describe the characteristics, quality and costs of services to severely handicapped children and youth in 100 providers in the U.S.A. Six major service areas of a provider were judged according to standards of high, medium or low quality using a specified quality indices and scoring system. The six service areas examined were educational and habilitative opportunities, staff-client interactions, parent involvement, humanization of institutional setting, extent of training and evaluation, and client movement. Abt Associates (1976:27-33) then defined specific indices for measuring each service area. A summary of these indices is displayed in Table 3. The indices and service areas were further reduced as a result of multiple regression analysis on the data, into two scales of quality as indicated in the schematic representation indicated in Table 3. On the basis of Abt Associates' work, two major quality scales may be suggested as standards against which to compare program services for the multiply handicapped.

Decisions. Once the analysis has been completed, and compared to standards, decisions must be made regarding the termination, maintenance or modification of the program. The decision will be affected by the purpose of the evaluation. In turn, the purpose of the evaluation will be affected by the audience of the evaluation and the type of evaluation being conducted. An evaluation decision-making matrix can be developed from these perspectives, as outlined in Table 4, which indicates the variety of viewpoints which may be adopted regarding the purpose of the evaluation.

Table 3

General Schematic Representation of Quality Scale Construction

Quality Indices	Aggregate Quality Indices	Quality Scales
Range of Educational/ Habilitative Materials High Percentage of Staff Time Spent on Educational/ Habilitative Tasks Amount of Client Time Spent on Educational/ Habilitative Tasks	Educational/Habilitative Opportunities	Educational/Habilitative Quality
Warm Staff-Client Interactions Instructive Staff Behaviors	Staff-Client Interactions	Non-Educational/ Habilitative Quality
Parent Involvement with the Provider Parent Involvement with Their Child	Parent Involvement	
Respect for Clients Privacy Non-Institutionalized Environment Personal Possessions Physical Comfort	Humanization of Institutional Setting	
Evidence of Client Assessment Evidence of Program Evaluation Staff Development Opportunities	Extent of Training and Evaluation	
Evidence of Client Functional Level Improvement Evidence of Movement of Severely Handicapped Clients Out of Provider into less Sheltered Settings Evidence that Clients Receive Educational/ Habilitative Services After Discharge from the Provider	Client Movement	

Source: Abt Associates (1976:113)

Table 4

Evaluation Decision-making Matrix

Audience Type of Evaluation	Instructional staff	Program Administrators	The Public	Professionals other than Educators	Others
Formative					
Summative					

Moore in Cross and Goin (1977: 54) notes that:

> ...the main difference (between formative and summative evaluation) lies in how the evaluation results are to be used. "Use" obviously has some bearing on how and when information is collected. With formative evaluation, results are used in planning modifications to and/or maintaining the programs for children. The phrase "summative evaluation" refers to a final accounting (usually involving a year or more) which is designed primarily to determine the overall success of a program.
>
> Both types of evaluation are important. Summative data are necessary in showing that programs - in the long run - have been effective or ineffective. Government and other funding agencies need this kind of data for "accountability" purposes. Formative data are important, especially to teachers, in periodically making sure that programs are on course; and, if they are not, how they may be set back on course.

The Evaluation. Evaluations of programs can be accomplished by either an internal agent, an external agent, or a combination of internal-external agents. Any of these agents or combinations will function suitably if the agents have expertise, experience and credibility. An external agent is usually most useful when credibility of the evaluation is a highly desired factor within the evaluation. For formative, functional evaluations, internal agents with expertise and experience may be most appropriate.

PART V

HUMAN AND TECHNICAL RESOURCES

Staffing

Categories. Abt Associates (1976: 18-19) outlined a set of twelve functionally-defined job categories as part of their study of 100 providers of services to severely handicapped persons. The job categories represented the range of role functions performed in the providers. The twelve staff job categories used in the Abt Associate study are as follows:

(1) Administrator: This includes the staff whose primary function is supervising other staff, or assisting in the management of the organization rather than direct care of clients. Examples of staff included are: Director, Business Manager, Accountant, Personnel Director, Secretaries, Clerks, Receptionist, Division or Unit Directors, Program Coordinators, etc.

(2) Medical Doctor: This includes all physicians except psychiatrists.

(3) Psychiatrist: This includes only psychiatrists.

(4) Psychologist: This includes all staff who perform various psychological functions such as counseling, staff consultation, testing, regardless of specific degree. Included can be people called psychologists who have B.A.'s, M.A.'s or Ph.D.'s in psychology or counseling.

(5) Social Worker: This includes all staff who perform various social work functions including counseling, community liaison, welfare and other payment negotiations, regardless of specific degree. Included can be people called social workers who have a B.S.W., M.S.W., or other related degrees.

(6) Therapist: This includes staff who perform various types of therapy other than counseling. Specifically, this includes occupational therapists, speech therapists, recreation therapists, physical therapists, music therapists. Included are licensed therapists, aides and assistants.

(7) Nurse: Included here are staff who perform primarily nursing functions such as dispensing medications, assisting physicians, etc. Included are both Registered Nurses and Licensed Practical Nurses as well as physician's assistants, medics, etc.

(8) Attendant: Included here are staff whose primary function is to take care of the basic needs of clients such as toileting, feeding, dressing, etc. They are considered attendants even if there are other more habilitative roles assigned in addition to these primary functions. These are generally jobs for which there is no special requirement in terms of training or education.

(9) Teacher (Certified): Included here are certified teachers.

(10) Teacher (Noncertified or Aide): Included here are staff used as integral parts of the educational or habilitative program but who have less education and training than full teachers, or who are not certified. Frequently they work with a certified teacher.

(11) Support Staff: This includes staff who perform non-direct service jobs which are primarily oriented towards maintenance and operation of the facility. Included are cooks, drivers, janitors, maintenance men, laundry workers, etc.

(12) Other. All staff not covered in the above categories. Examples include pharmacists, research staff, etc.

More detailed role descriptions will be required for each of these categories in order to operationalize them.

Ratio. The ratios of staff to clients are not readily evident within the literature. The major study to provide indications of current staff/client ratios was completed by Abt Associates (1976: 41-42). The findings of their study were reported as follows:

> ...There were an average of 0.85 full-time equivalent staff per client served (based on a 40-hour week) over all providers. [Note: Due to the fact that staff in

some providers worked half-time with severely handicapped clients, staff hours were converted to a full-time equivalent based on a 40-hour week.] Attendants accounted for the largest proportion of this total, with.20 attendants per client. We also observed averages of .11 administrators and .15 support staff members per client, as well as .13 certified teachers/aides. Other full-time equivalent averages per client ranged from .002 (psychiatrists and medical doctors) to .05 (therapists).

As might be expected, residential and mixed providers had significantly more staff per client than day providers in the categories of attendant (.37 and .25 vs. .02) and support staff (.22 and .27 vs. .04), and on a smaller scale, in the categories of nurse, psychiatrist, and medical doctor. Very small providers employed more certified teachers than the average (.18 per client), and providers serving 10-50 clients had more non-certified teachers (.14 per client). Very large providers had high ratios in the categories of attendant (.30 per client), nurse (.09 per client vs. an overall average of .04) and medical doctor (.008 vs. .002 overall), possibly related to the fact that there were no day providers serving more than 200 clients.

Providers serving mentally retarded clients had a much lower ratio of .56 staff per client served; averages for all staff categories were lower among this group. Providers serving emotionally disturbed clients and deaf-blind populations had high numbers of staff per client served with .997 and 1.02 respectively. Providers to emotionally disturbed clients showed high staff:client ratios in the categories of therapist (.12 staff per client vs. .05 overall), social worker (.06 staff per client vs. .02 for all providers), and psychiatrist (.006 staff per client vs. .002 overall). Numbers of staff per client in the categories of certified teacher, non-certified teacher/aide, administrator, and "other" were also higher than average in providers serving emotionally disturbed clients. Among providers serving deaf-blind clients, very high staff:client averages existed in the categories of certified teacher (.26), non-certified teacher/aide (.21, and attendant (.31, while ratios were below average for all other staff categories.

> Public providers had more staff per client than did private providers in three categories: nurse (.06 public vs. .02 private), support staff (.22 vs. .09), and attendant (.24 vs. .16). Over all staff categories, public providers had an average of .98 staff members per client as compared to .70 for private providers.
>
> Demographically, 80% of provider staff members were white, exactly the proportion observed for clients. Again, larger providers had a larger proportion of minority staff than smaller ones. Although there was little difference in the characteristics of the clients in providers serving emotionally disturbed populations, we found 91% of their staff members to be white. Public providers had more minority staff than private providers (26% vs. 15%). Only 23% of the staff members were male, with the largest concentration of male staff members in large providers, where they may serve as attendants and support staff, and in providers serving emotionally disturbed clients, where a higher number of professional staff was noted.

Training. If the assumption is made that the primary purpose of the staff's interaction with clients is developmental rather than custodial activity, then all staff members are teachers in the broadest sense of the term. Teaching, as Brown and York (1974: 4) note:

> ...refers to or may be defined as the creation or arrangement of an environment that produces specified changes in the behavioral repertoires of the students.

Each individual of the educational/habilitative team has specialized skills which are brought to the teaching task. Nevertheless, it may be reasonable to assume that if these staff members are to be involved in teaching environment, they should have some knowledge of how their particular area of expertise can best be translated into the desired student activity through the medium of teaching. The requisite contact with teaching in special education might include the types of contact suggested by Hart (1977: 243) in reference to the skills and attitudes necessary for personnel in the field of service to the deaf-blind:

> ...(1) program participation: (2) observation of the child alone, in a group, with the family, and in community settings; (3) clinical practice with one child or with a small group; (4) student teaching, and (5) internship. The internship should take into consideration the individual needs of the student as well as the individual needs of the client in the placement setting.

The actual conduit for teaching is the teacher, teacher aide, and the parents. Two major means of training are available for teachers who wish to work in the area of special education: university or some form of inservice program. University programs are available at the undergraduate level or graduate level. As well, inservice training programs are available to teachers from universities, or through various professional organizations, and through professional activities such as visits to other programs, seminars, and workshops. The teacher aide most frequently receives training on-site from resident staff or may have received some training through a community college program. One or more aides will work under the direction of a teacher in a particular classroom setting. Parents most often receive their teaching training, if any, from the staff of the teaching institution at which their child is attending.

A detailed and comprehensive analysis of the topics needed in a teacher training program was developed by Christie et al. (1977) in reference to graduate programs. They identified nine competency clusters which were further developed into a series of instructional objectives. The nine competency clusters identified were:

1. Physical and Developmental Characteristics of the Learner
2. Foundation of Special Education
3. Application of the Data-Based Individualized Mode of Education
4. Curriculum Content, Design and Adaptation
5. Classroom Management
6. Training and Working with Others
7. Educational Evaluation
8. Dissemination
9. Professional Development

Facilities

Approaches to Planning Facilities. There is no one way to plan special education facilities. In the views represented by various planners in Abeson and Blacklow's (1971) book entitled Environmental Design, the planners note that there is a necessity for involving people in the planning process who represent a variety of interest and responsibility levels. One of the planners (Baird, 42-43) provides a notable caveat regarding those people who should be included in the planning process: "...include only those people to whom you intend to listen." Who are some of the potential members of a planning team? Some possible members are from the board, administration, instructional and professional staff, paraprofessionals, support services, and community. In general, the views of various planners suggest some form of team approach to planning facilities, with constant communication between those doing the planning and those who will implement the plan if these groups are not the same.

Philosophical Considerations. Bettelheim, as quoted by Bayes and Francklin (1971: 13), states: "The design of a building for (handicapped) children must be the result of a philosophy." The philosophy underlying the facility to be designed or modified can be determined most easily by examining the functional programs for the facility. Bayes and Francklin (1971: 13-16) outline a series of considerations which, when examined, should provide an insight into the functional philosophical definition behind the construction of modification of facilities:

1. Functions of the Project
2. Types of Handicapped Children Admitted
3. Background and Future of Children Admitted
4. Division of Children into Groups
5. Activities of the Children
6. Activities of the Staff
7. Activities of Parents and Local Community
8. Interrelationships of the Activities

Only when the task of identifying the philosophical perspective and functional programme for a facility or modification of a facility has been accomplished can the architectural brief for design be developed.

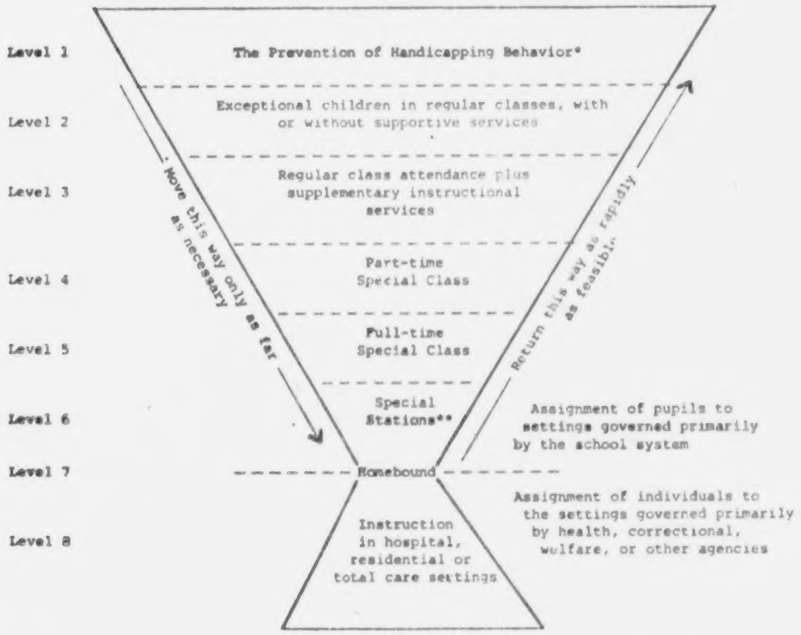
Facilities Options. A range of possible facilities options exists, in large part dependent upon the philosophical considerations discussed earlier. The range of facilities options can be keyed to the types of service to be provided as indicated in the levels of the cascade system (see Figure 2).

Figure 2

Comparison of the Cascade System and
Facilities Implied

The Cascade System of Special Education Service

- after Evelyn Deno


Level 1
The Prevention of Handicapping Behavior*
Level 2
Exceptional children in regular classes, with or without supportive services
Level 3
Regular class attendance plus supplementary instructional services
Level 4
Part-time Special Class
Level 5
Full-time Special Class
Level 6
Special Stations**
Level 7
Homebound
Level 8
Instruction in hospital, residential or total care settings
Move this way only as far as necessary
Return this way as rapidly as feasible
Assignment of pupils to settings governed primarily by the school system
Assignment of individuals to the settings governed primarily by health, correctional, welfare, or other agencies

*This means the development of positive cognitive, affective, and psychomotor skills in all pupils that will reduce or prevent the frequency of handicapping behavior.

**Special schools in public school systems.

Diagram of the Cascade System From: Council for Exceptional Children Policy Statement in B. R. Gearheart, Organization and Administration of Educational Programs for Exceptional Children. Springfield, Ill.: Charles C. Thomas Publishers, 1974, p. 242

(Figure 2 cont'd) Facilities

1. No facilities required
2. Regular classes
3. Resource Room
4. Either of both - Resource Room - Special Classroom
5. Special Classroom
6. Special day schools
7. Home Facilities
8. Residential Schools

No special facilities are required for persons involved at either levels one or two of the Cascade System. For students in levels three to five, some form of specialized facilities, usually within existing school facilities, will be required such as resource rooms or special classes. An Education U.S.A. Special Report (1977: 88-89), which listed common adaptations in school facilities to allow mainstreaming, identified the resource rooms as the most common adaptation:

> ...Here, special books, film strips, games, diagnostic equipment and other materials for handicapped children are brought together with special education teachers, aides, psychologists and other specially trained personnel. A handicapped child spends part of the day in the resource rooms and part in regular classes. Some schools have made their resource rooms so elaborate that all students can use it, and thereby integrate handicapped children in their special facilities...
>
> A second adaptation can be to use an annex of a regular building...(or to build) annexes onto existing buildings.

For students whose handicaps are sufficiently severe as to warrant exceptional special attention, a special school may be required (Level six). The Education U.S.A. Special Report (1977: 89-91) suggests two options for special schools: a special school which also enrolls regular students and an entirely separate special school called by some a "magnet center." The "magnet centers" may serve those with only one major handicapping category or a series of handicaps. They may serve only the handicapped persons's needs or also cater to the educational requirements of the family of the handicapped person.

There are also those students who, because of their degree of handicap, must be served at home (Level seven). Klein's (1978: 432) caveat in reference to homebound services for deaf-blind children should be noted at this point:

> ...The provision of home-bound services for school-age, deaf-blind children should be reserved as a "last resort" in three situations: a) in rural and sparsely populated areas where no other services exist; b) during the transition period when placement efforts for newly-identified deaf-blind children are being sought, and c) for those few severely and profoundly handicapped deaf-blind children whose physical conditions make transportation a serious health hazard. Home-bound programming is not to be confused with a home-visiting program which acts as a support to a center-based child-oriented service. The home-bound program, by definition, is the least desirable placement alternative for the school-age, deaf-blind child. Moreover, the same conditions that make this type of program a necessity often contribute to the difficult conditions under which the program must operate.

Lastly, facilities may be required for those individuals who require total care (Level eight). Such facilities are normally available in residential, hospital settings.

Two other major decisions regarding facilities will be critical in determining the type(s) of facilities to be adapted or constructed: (1) are the facilities to be for day or residential use? and (2) are the facilities to be sited in a central provincial, a regional, or a local setting?

Day vs Residential Providers. The Abt Associates (1976: 136-9; 141-3; 157-9) study of 100 providers of services to severely handicapped children and youth in the U.S.A. summarized the major findings regarding day vs residential providers as follows:

> 7.1.1 Type of Provider
>
> Over the course of the project it became increasingly evident that day, mixed and residential providers were characteristically different from each other on virtually every dimension (see Chapter 6). Not only were the services provided to severely handicapped clients in day, mixed and residential providers quantitatively different but the corresponding costs and quality of service were also markedly dissimilar in the providers studied. Given the differences which emerged between different types of providers, it is clear that the three types of providers cannot, for both analytic and policy purposes, be equated.
>
> Provider type discriminated for the majority of the several hundred variables collected and analyzed. The following limited set of variables should convey some of the most important differences and leave the reader with an impression of the overall importance of the variable.

Educational/Habilitation Services. All day providers offered educational and habilitative services to severely handicapped clients while 90% of residential providers offered these services.

Medical Services. Residential providers offered medical services to their clients more often than day providers.

Admissions. Residential providers had an average waiting period for admission of 7.7 months, more than twice the waiting period for day providers.

Acceptance. The rate of client acceptance in day providers was notably higher (83% of applicants were accepted) than in residential providers (61% of applicants were accepted).

Length of Stay. Not surprisingly, clients remain enrolled in day providers for a shorter period of time than clients enrolled in mixed and residential providers.

Post-Discharge Education. Severely handicapped clients released from day providers were most likely to be receiving educational services in public school after release, while those discharged from residential providers were most likely to continue to receive educational services in non-school settings.

Rate of Release. Day providers released fewer clients per year than residential or mixed providers, the primary reason for discharge in both types of providers being improvement in client functioning level.

Post-Release Residential Placement. Clients were most likely to be released to their natural home as opposed to another type of living setting.

Parent Involvement. More parents were actively involved in the planning and delivery of services to their child in day as opposed to residential providers.

Source of Funds. Residential and mixed providers depend slightly more on state funds than did day providers, but state funds were the most important source for all types of providers.

Parent Fees. Parents were more likely to pay for services in residential or mixed providers than in day providers. As expected, residential or mixed providers were observed to be more expensive when they do charge than are day providers.

7.1.2 Provider Size

One very important manner of differentiating providers was in terms of the number of severely handicapped clients aged 21 and under that were served. This continuum was divided into four categories: providers serving fewer than 10 such clients, providers serving 10-50 clients, providers serving 51-200 clients and providers serving more than 200 such clients. A second important dimension of size was the total number of clients served by the provider. The vast majority of the providers visited also served severely handicapped children.

The number of severely handicapped clients aged 21 and under served was generally positively related to quality. An exception to this trend was the group of providers serving more than 200 severely handicapped clients, where the level of quality was lower than that for the 51-200 client cell. It is clear that the smallest providers (fewer than 10 clients) had the lowest level of quality. The highest quality was observed in those providers serving between 51 and 200 severely handicapped clients.

The total number of clients served by the provider was also somewhat positively related to quality except in the largest providers. An inspection of the data indicated that large providers with many severely handicapped clients showed particularly low quality ratings.

The overall relationship between the two measures of provider size and quality could be decomposed into several pages of detail. However, the following important highlights should illustrate the general nature of the relationships.

Range of Resources. Both size variables were highly related to the type and range of resources available within the provider with larger providers offering more services. Since the range of services relates directly to quality, it was observed that size was strongly related to quality.

Small Providers. Smaller providers (especially those serving fewer than 10 severely handicapped clients) offered fewer types of services than larger providers; those serving more than 10 such clients were similar in the range of services offered.

Minority Composition. Overall, 80% of all staff and clients in the 100 providers were white (non-minority). However, larger providers were found to have larger proportions of both minority staff and minority clients.

Formal Evaluations. While 63% of all providers conducted evaluations within the last five years, all of those providers serving more than 200 severely handicapped clients performed evaluations.

Parent Involvement. Larger providers has higher levels of parent involvement.

Contrasts Between Providers Serving Primarily Deaf-Blind Clients and Other Providers

Overall Quality. Day providers were lowest in quality among day providers; residential providers were among the highest quality residential providers.

Scope of Clientele. Providers serving primarily deaf-blind clients often had mandates to serve other disability groups (the reverse was not generally true).

Staff-Client Ratio. The staff-client ratio was 1.02. High staff-client ratios existed for the categories of certified and non-certified teacher and attendant; ratios were well below average for all other staff categories.

Parent Visitation. There was a high rate of parent visitation.

Length of Stay. A high average enrollment period was noted. For example, an average of only 1 client was released in the 11-month period from July 1, 1973 to June 1, 1974.

Formal Evaluations. Only 71% of the providers conducted client assessments; 70% of those assessing clients used the same assessment procedures for all clients. 100% of these providers used evaluation results to develop instructional programs; a relatively low number used these results to measure client progress.

Educational Opportunity. These providers showed the highest levels of educational opportunity, staff-client interaction, and training and evaluation; they were considerably lower than others in terms of client movement out of the provider.

> Discharge Factors. Functional deterioration or improvement were both very common reasons for discharge from providers serving deaf-blind clients. Among residential providers, family removal of the client was never cited as a reason for release.
>
> Deinstitutionalization Settings. Clients released from day providers were far more likely to be released to another institution caring for the handicapped than to a community setting; residential deaf-blind clients were more likely to be released to their parents than was any other type of client.

There are, however a few comparisons which can and should be made within explicit limitations of the data.

Our data indicate that during an operating week, residential providers offer more educational and habilitative services to severely handicapped clients than do day providers, but not a very large amount (28 versus 25 hours per week). It is important to note that for clients in residential providers, this amount represents the total amount received during an average week, whereas for clients in day providers it is only the amount received while in the structured program studied. There is the definite possibility, then, that clients in day providers receive educational and habilitative services when at home in their residential setting. The providers offering the greatest amount of educational and habilitative services were the mixed providers. These providers offer severely handicapped youth structured programming in the residential settings as well as in the "day" settings.

In sum, if the amount of educational and habilitative services offered a severely handicapped client is a primary goal of a policymaker or program planner, then it appears that mixed providers offer the most; residential providers offer the next highest number of hours; and, day providers offer the least but allow for additional educational and habilitative service for the client outside of program hours (from the parents or other sources). The formulation of any general policy in the area of programs for severely handicapped youth should begin with the realization of the qualitative and quantitative differences between these provider types.

Provider Size and Number of Severely Handicapped Youth

The results of this study suggest that the total size of the provider and the number of severely handicapped youth served in the provider are positively related to quality. However, an important caveat that should not be overlooked is that beyond a certain size, on both of these size dimensions, quality deteriorated rapidly. Hence, it would appear that large institutions with large concentrations of severely handicapped youth may not be ideal provider environments for care of severely handicapped youth.

Centralized or Decentralized siting. No data could be found to substantiate either view. The one major report which discusses the process of decentralized planning for decentralized siting was presented by Murray (1975).

Equipment and Materials

Extensive lists of materials and equipment were evident in the literature but deal largely with single handicaps, not multiple handicaps. Examples of such lists, for selected handicapped groups can be found in Lambert *et al.* (1975); Palm (undated); Chapters 5, 6, and Appendix B of Fallen and McGovern (1978); and Appendix R of Ward (1978). A few additional ideas can be obtained from Sandhu and Hendriks-Jansen's *Environmental Design for Handicapped Children* (1976). They outlined some potential uses for tactile boards and display boards, partitions (construction), boxes, colors, mirrors, a multi-purpose metal play-box frame, lighting, mobiles, crawling/climbing/balancing boxes and a variety of miscellaneous suggestions. In particular, they "played" with some of their ideas to see their effects on clients and staff. One of the more interesting conclusions was that staff involvement with children and the physical environment tended to be relatively high in "primitive" surroundings when compared to more sophisticated, "finished", perfectly designed surroundings.

One other reference discovered in the literature was oriented particularly to the deaf-blind and neatly summarized, in general terms, the sensory aids which are available to sensory multihandicapped persons. Salmon and Spar (1974: 57) stated that:

> ...Various devices employed in the reading and writing of braille are now conventional. The Opticon, an electronic device that makes it possible to read ordinary print by touch, has already proved to be of value and holds much promise for some deaf-blind individuals in computer programming, in studying, etc., A number of electronic devices for the wireless transmission of vibratory signals have proved useful to alert deaf-blind persons to the ringing of a doorbell, the sounding of a fire alarm, etc., and we now see good promise of greatly improving the versatility and reliability of this method of communciation in the near future. The transmission of braille by telephone has been amply demonstrated and holds exciting promise for increasing the ability of deaf-blind people to communicate with each other over considerable distances and, through the use of available typewriter keyboard and visual print-out add-on devices, to communicate with people who can see and who have not had occasion to learn braille. We may hope that, in the not too distant future, the transmission, by radio, of braille and/or embossed print will make it possible for deaf-blind individuals to communicate with almost anyone in their immediate vicinity without the necessity of maintaining physical contact with such a person or depending on a telephone line connection with him. Such an accomplishment will offer not only practical benefits to the deaf-blind individual but will provide him with a kind of emancipation from the need to accommodate himself to the location and movements of others in the course of communicating with them that may hold important psychological benefits for him.

Since the time in which Salmon and Spar wrote, additional electronic advancements have occurred which are likely to have had a beneficial spin-off regarding the severely handicapped.

Other resources for materials and equipment were evident in the literature but deal with single handicaps, not multiple handicaps.

Finances

Sources of Revenue. Abt Associates (1976: 91-2) identified six major sources of revenues for providers. Care should be taken to note that the revenues provided were for use in programs for severely handicapped and a variety of other handicapping conditions. The categories of revenue sources were as follows:

- Funds received from state agencies,
- Federal funds received from federal agencies,
- Funds received from local agencies,
- Fees paid by families to the providers,
- Funds received from welfare agencies, and
- Funds received from other sources (i.e. foundation grants, third party payments, donations, endowments and investments).

In general, the bulk of revenue for services is derived from governmental sources.

Distribution of Revenue. Gearheart (1974: 118 ff), reporting the findings of studies conducted by the Council for Exceptional Children, notes that there are two general means of support for special education services: support based on classroom units or support based on per pupil formulas.

Two forms of classroom based cost support can be identified: the pure unit support and the percentage reimbursement. Pure unit support provides one "unit" of governmental financial support for each "unit" of special education students. In essence, it operates as a foundation grant for a specified unit. The unit may be defined in terms of numbers of students, teacher qualifications required, age ranges, and so forth. A second type of unit formula is percentage reimbursement. In this system, some percentage of the total cost of services per unit are reimbursed by the governemt.

Gearheart (1974: 120) discusses the second general category of cost support, per pupil reimbursement, as follows:

> ...There are at least three types of per pupil reimbursement, with variations of each. *One type, related to a computation of excess cost per pupil, may be simply called the per pupil excess cost formula*. In this approach, the cost of education of the average, non-exceptional child is used as a base. The excess cost of education of various exceptional children is the difference between exceptional child cost and the base cost. Some states theoretically pay all of this excess cost, others pay a percentage of the excess cost, and still others pay excess cost up to a certain limit (e.g. up to $500 per pupil). *A second excess cost system is that in which a flat amount is paid per pupil*. The amount per pupil will likely vary in proportion to the excess cost of education of children with various specific handicapping conditions (e.g. $400 per child for educable mentally retarded, $800 per child for the deaf, and $900 for the trainable mentally retarded). *A third system of reimbursement based on number of pupils served is one in which a multiplier or weighted value is used to represent the added cost per pupil to educate the exceptional child*. If the state support for non-exceptional children a given year is $600, and if the multiplier for the educable mentally retarded is two and for the trainable is three then the district receives $1,200 per pupil for the educable and $1,800 per pupil for the trainable. This reimbursement is designed to reflect the added cost of education of the exceptional child.

Gearheart (1974: 123), in his discussion of revenue distribution, indicates that the voucher system has merit for limited use in special education. The voucher system is a system wherein the parent is given a voucher for the cost of the child's education, to be used in the parent's choice of approved educational programs. Gearheart suggests that this idea may have particular utility in sparsely-populated areas or with respect to very low incidence handicaps.

Costs of Services. The calculation of costs for services to the handicapped is difficult to determine from either a survey of the literature or from the records of providers. There are considerable variations from report to report in the literature, largely because reporters use different bases for their collection of data and their analysis. As well, any information from the records of providers may not include a number of hidden costs such as the market value of land, buildings and/or equipment, or accurate proportional costing for shared services. These preliminary comments are meant to indicate that while the following data is meant to be the best and most current data available regarding costs of services for severely handicapped persons, even these figures must be considered as approximations and treated with a degree of caution and flexibility.

Abt Associates (1976) has conducted a major study in the U.S. to describe the characteristics, quality and costs of services to severely handicapped children and youth in 100 providers. The dollar values related to the findings are in 1976 U.S. dollars and will require some adjustments in order to compare them to Canadian Dollar values. Table 5 from Abt Associates (1976: 144) summarizes the per childweek personnel costs separated into educational/habilitative, basic care, and program administration services.

Table 5

Average Standardized Cost Per Childweek
by Provider Type and Aggregate Service Area:
Personnel Expenditures

	Aggregate Service Area			
Provider Type	Educational/ Habilitative	Basic Care	Administration	Total
Day	$48.48	$12.91	$18.07	$79.46
Mixed	53.50	55.26	30.94	139.70
Residential	94.93	82.43	24.94	202.30
Average for all Providers	$66.52	$45.66	$23.10	$135.28

The discussion of the Table, and related data, as presented by Abt Associates (1976) is as follows:

> ...From the table we may see that the average personnel expenditure for the 95 providers from which valid cost data were available was $135.28 per childweek. Day providers spent less than this amount and residential providers spent more. Overall, about half of all personnel costs were expended for educational/habilitative services ($66.52 per childweek). Residential providers spend nearly twice as much per childweek for educational/habilitative services than day providers. This difference is consistent over all staff categories except administrator and teacher aide. That means that residential providers spent more than day providers on certified teachers and other "habilitative" staff types (e.g. psychologists, therapists, social workers, etc.) per childweek.
>
> Another dimension of providers we have considered is the primary type of clients served. We compared providers who served primarily emotionally disturbed clients with all other providers [including those serving the multihandicapped] and found that those

providers serving emotionally disturbed clients spent about $40 per childweek more on personnel costs than all other providers ($169.64 vs. $128.08). Providers serving emotionally disturbed clients also spent more for educational/habilitative services than other providers ($82.60 per childweek vs. $62.47).

The largest expense for any type of staff was for certified teachers ($35.68 per childweek), followed by $20.46 for attendants and $20.17 for administrators. Day providers spent approximately the same amount for certified teachers ($35.27), followed by $16.11 for administrators and $11.59 for teacher aides. Residential providers also spent the largest share of their personnel costs on certified teachers ($41.57), followed by $41.15 for attendants $25.95 for support staff and $23.95 for administrators. In mixed providers, the largest personnel expenditure was for attendants ($28.57), followed by administrators ($27.17), support staff ($25.07) and certified teachers ($24.59). Providers serving primarily emotionally disturbed clients spent the largest portion of their personnel costs on administrators ($34.62), with therapists second ($31.74), and certified teachers a distant third ($20.42).

In general the largest share of all personnel costs was attributed to the provision of educational/habilitative services. The staff categories in which the largest expenditures were made are certified teachers, attendants and administrators. Residential providers had larger per childweek expenditures for both educational/habilitative services and basic care than was observed for either day or mixed providers. Those providers serving primarily emotionally disturbed clients had higher personnel expenditures than other types of providers.

7.2.3 Nonpersonnel Expenditures

An estimate of the actual dollar expenditure for nonpersonnel costs was obtained in the course of the cost analysis. Overall, nonpersonnel costs accounted for less than 25% of the total costs of a provider. Table 6 contains a summary of the non-personnel expenses per childweek for providers. Again, the cost of a day program was significantly less than that of a residential program. The nonpersonnel costs of day and residential providers serving primarily emotionally disturbed clients were only slightly higher than those of other providers (by about $5 per childweek). The exceptionally high nonpersonnel costs observed for mixed providers cannot be easily explained. Given the small number of such providers (18) and the problems with the nonpersonnel cost data discussed in Section 5.7, this result should not be considered important.

Table 6

Average Standardized Costs Per Childweek by Provider Type: Non-personnel Expenditures

Provider Type	Total Dollars
Day	$24.56
Mixed	74.13
Residential	41.64
Average for all Providers	$40.10

In addition to determining the personnel and non-personnel costs of providers, Abt Associates (1976) attempted to relate costs to the quality of the program. Indices used to determine quality have been outlined elsewhere in this literature review. Abt Associates (1976: 148) findings regarding the relationship of cost and quality is as follows:

> Results of the study point to a complex relationship between cost and quality. The eighteen quality indices were individually related to costs in different manners. Four of the variables were generally positively related to costs:
>
> High percentage of staff time spent on educational/ habilitative tasks,
>
> Personal possessions,
>
> Staff development opportunities, and
>
> Evidence that clients received educational/ habilitative services after discharge from the provider.

In contrast, parental involvement with their child was observed to be negatively related to costs.

It was found that the quality ratings on four indices could be theoretically increased in the low and medium quality institutions by changing the pattern of expenditures across the three aggregate service areas without adding additional resources nor necessarily decreasing other quality indices.

Range of educational/habilitative materials,

Instructive staff behavior,

Parent involvement with the provider, and

Respect for clients.

Three mediating variables were found to be strongly correlated with average standardized costs per childweek.

Whether the provider was serving primarily emotionally disturbed clients or not,

The number of severely handicapped clients in the provider, and

The total number of clients served by the provider.

With the important exception of the rapid deterioration of quality ratings when large numbers of severely handicapped clients were concentrated in larger providers, these variables were positively related to the quality ratings. However, the introduction of these mediating variables, through regression procedures, did not affect the basic relationships between cost and quality noted above. However, it must be emphasized that the relationship between cost and quality varied markedly across day, residential, and mixed providers. Details of these relationships can be found in Chapter 6.0.

A second study in which cost figures are presented was prepared by Ward (1978) for the Calgary School Boards. Ward (1978: 25-26) calculated primarily personnel costs, plus a recommended per class cost for instructional materials, supplies and equipment. The method of deriving the figures and the projected costs are as follows:

...1)Staff:

The Calgary Catholic School Board has hired several itinerant people to provide support services for their special education classes including a speech and language specialist and a psychometrician. In all these cases, whether the personnel were certified teachers or not, they were paid on the same pay scale as the regular teachers, i.e., they were paid on the same salary grid according to years of experience and years of education. Using this as a precedent, the salaries for the teacher, occupational and physical therapists, speech and language specialist, family liaison specialist and project coordinator were based on the projected average salaries for a special education teacher for 1978-79 plus 6% for 1979-80 (with the Calgary Catholic School Board). An administrative allowance of $2000.00 is included in the Project Coordinator's salary. This sum was arrived at through discussions with Dr. Doll and Dr. Sangster. The teacher-aides salary range will be based on a seven hour working day and a 10 month year. The median then is $825.00 which makes $8,250.00 per year for 1978-79. The secretary will be paid as a special education teacher-aide, on a 10 month basis.

The projected salaries for 1978-79 and 1979-80 are as listed in Table 16.

PROJECTED SALARIES FOR STAFF

TABLE 16

	1978-79	1979-80
Teacher	$21,792.00	$23.100.00
Teacher-aide	8,250.00	8.745.00
Occupational Therapist	21,792.00	23.100.00
Physical Therapist	21,792.00	23,100.00
Speech and Language Specialist	21,792.00	23,100.00
Family Liaison Specialist	21,792.00	23,100.00
Project Coordinator	23,792.00	25,220.00
Secretary	6,840.00	7,250.00

. . . .

2) Instructional Materials and Supplies:

Based upon discussions with various people in the field, it is recommended that approximately $3,500.00

> be budgeted for each new class for dependent handicapped children and that $500.00 be budgeted for the second year. Also, approximately $4,000.00 should be budgeted for equipment (desks, chairs, filing cabinets, etc.) for the support staff with approximately $500.00 for year two.

A third study, conducted in Calgary, Alberta for Services for the Handicapped of the Alberta Department of Social Services and Community Health (1978), outlines a community service program for handicapped people in the Calgary area. The components of the service model are identified as a series of service modules. At least two service modules are of interest for this study. Module 26 outlines the target population, purpose, basic characteristic and staffing for a home-based intensive sensory motor stimulation therapy program for pre-schoolers. The costs for a total of 25 clients was identified as $377,000 of which $60,000 was for facility operating costs and $317,000 was for a staff which include 40 full time programming staff and 800 hrs/year consulting staff.

Another module, Module 28, has interest for this study. Module 28 outlines the target population, purpose, basic characteristics, and staffing for a Pre-school Multihandicapped Program at Alberta Childrens' Hospital. The costs for a total of 45 clients were identified as $461,300 of which $131,800 was for facility operating costs and $329,500 was for a staff which includes 15 full-time programming staff, 1 full-time and 3 part-time administrative staff, and 80 hrs/year consulting staff.

In both of these examples there was no detailed breakdown of the costs or description of how the figures were derived.

In none of these studies was there any discussion of capital costs.

In summary, there appears to be no general approach to costing services for the severely handicapped. Of the available studies, the Abt Associat (1976) study appears to outline the most comprehensive approach and has the added benefit of being matched to quality indices.

PART VI

COORDINATION

Definition

Healey (1975: 19) defines coordination as:

> ...the process of bringing together all necessary resources in the appropriate sequence in order to accomplish a given objective. Coordination involves initiating, sustaining, and interrelating the various parts of the service delivery system.

The more complex the network of agencies, programs and personnel serving the multiply handicapped, the more imperative some form of coordination becomes.

Functions of Coordination

The functions to be fulfilled through coordination will be dependent to some extent upon the stated goal of the coordinating agency. Small (1972: 5-11), in a monograph which discusses coordination of post-secondary education, outlines some essential functions of coordination. The first function of coordination involves planning, both long range and short range. Long range planning attempts to direct the system to achievement of goals to which the system generally subscribes. Short range planning is contingent upon situations as they arise. The second function of coordination involves the allocation of functions and programs. Small (1975: 8), referring to Glenny's (1959) findings, notes that:

> ...the key concern of the public interest is the availability of needed educational services, conveniently located, and at reasonable cost. This raises the issues of diversification and dispersion.

A third function of coordination is the rationalization of budget in terms of the needs of the programs. These needs would be of both a capital and operating nature. The fourth function of coordination is to provide an adequate data base through research and information gathering.

The functions outlined by Small (1972) in reference to post-secondary institutions largely are echoed by Healey (1975) in reference to one category of the sensory multihandicapped, the hearing-impaired mentally retarded. Healey (1975: 21) notes that governmental coordinating agencies can hasten the development of a continuum of services for the handicapped by providing a series of coordination activities such as:

> ...supporting or conducting significant research in the field, recommending new legislation as well as reinterpreting and amending existing legislation, granting funds to educational programs and community agencies to support ongoing programs and to help establish new programs, publishing literature concerning the handicapped, establishing specific standards for professional certification and program accreditation and, finally, serving as a liaison and spokesman for various services within a comprehensive delivery system network.

As well as the foregoing functions of coordination, a series of more specific tasks has been outlined by the Edmonton Regional Services for the Handicapped, Alberta Department of Social Services and Community Health in 1976. In the Coordinating Manual for Resources for the Dependent Handicapped (1976: 4) eight members of a coordinating committee were designated to be responsible for all aspects of a task area. The eight task areas were:

... 1. public and parental support
2. staffing and staff development
3. research and evaluation
4. physical support
5. external operations

6. curriculum and instruction
7. internal operations
8. pupil selection

Each of the task areas then was broken into component activities.

Thus, in summary, there are at least four functions which coordination performs: planning, allocations of functions, rationalizing budget and information processing. These functional areas can be further divided into task and component activities to permit more effective implementation and to ensure more specific accountability.

Major Organizational Options for Coordination

Several options are available to foster coordination of efforts on behalf of sensory multihandicapped persons. However, two options appear in the literature as the most common and current means of coordination at a provincial level.

The first organizational option for coordination will be called the Inter-agency Coordinating Council. Stewart (1978: 42) describes this option as:

> ...a special statewide committee...established by concerned schools and agencies for the specific purpose of fostering communication, client/student referrals, and exchange of information as well as long-range planning activities. One individual from each concerned agency can serve as a member of the committee.

This type of coordinating option sometimes is described as a cooperative (Perine, undated). In the Alberta Special Education Study (1977: 57), this form of shared-service arrangements is seen as congruent with the experience of some school districts in Alberta on a regional basis. Guidelines to be considered in organizing a regional shared-service unit were developed in that report:

1. Minimum total enrollment in the school systems comprising the regional shared-services unit should be 10,000 (Chalfant, 1967; Hughes et al, 1970).

2. The travel time required should not exceed two hours per day (Chalfant, 1967) or two hours per day for 90 percent of the area to be serviced (Hughes et al, 1970).

3. The above authors also note that existing government structures, as well as social, economic and geographical factors would be considered in establishing boundaries for a regional shared-service unit.

4. Shared-services arrangements have provided continuity and stability for programs. Competent professional staff have been employed. An alternative to shared-services is the purchase of services from a larger school district. However, relinquishing exceptional children to larger school districts has inherent problems; the smaller district has no voice in the administration of services and the needs of children from the larger district are often assigned higher priority (Chalfant, 1967).

5. Shared-service structures have operated quality programs. Support from the state government is required (Achilles et al, 1974).

The second organizational option for coordination will be called the Provincial Coordination of Services. There are two forms of this option. One form, outlined by Perine (undated) as a super-agency, is a department or sub-departmental unit which undertakes the responsibility across a number of service areas to provide an efficient flow of services to a consumer or group of consumers. The second form of the option, outlined by Stewart (1978: 42), is:

> ...the appointment of one individual to serve as a '[Provincial] Coordinator of Services for [Sensory Multihandicapped] Persons.' The coordinator position might be located within a superagency and be one duty of a present staff member or be one duty of a present staff member or be the single role of a new or existing staff member.

Other coordination options exist such as voluntary agencies, citizen information centers, or advocacy agencies. However, the first two options previously outlined appear to be the most frequently used and the most effective coordination options.

Small (1972: 29) lists a set of desireable features which emerge from the literature which characterize a healthy system. They possibly should be considered in choosing the most advantageous option for the provincial coordination of services for the sensory multihandicapped:

1. A functional authority base.
2. Freedom from other agency interference.
3. Open communications and feedback.
4. Objectivity and impartiality in dealing with (agencies).
5. Political neutrality.
6. Structural flexibility.
7. Orientation to local ... autonomy.
8. A broad frame of reference with respect to provincial needs.
9. Ready access to valid data.
10. A conflict resolution capability.

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SENSORY MULTIHANDICAPPED PROGRAM
PLANNING PROJECT

Supplement # 2

Demographic Survey Findings

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DEMOGRAPHIC SURVEY

Introduction

A demographic survey was conducted between July, 1979 and September, 1979 in an effort to define the sensory multihandicapped population in Alberta between the ages of 0 and 23.

Two questionnaires were developed by the Task Force. The Client Survey was administered through the Alberta Social Services and Community Health. The questionnaire was intended to obtain in-depth information regarding sensory multihandicapped clients known to Alberta Social Services and Community Health. The Institutional Survey was sent to institutions throughout the province which were believed by Alberta Education, to be serving sensory multihandicapped persons.

Limits of the Study

The findings of the surveys were limited by a number of factors:

1. Information was difficult to access.
    - a. The diagnosis of some clients was believed by respondents to be only partially accurate.
    - b. Procedures for reporting sensory multihandicapped to serving agencies are not thoroughly established in the province.
    - c. The definitions of the population were interpreted somewhat differently among the respondents.

d. The requested information was not available to some respondents.

e. The need to respect the confidentiality of the clients sometimes limited the information which could be provided.

f. The months of July and August were difficult months during which to obtain information from school personnel and school districts.

2. The responses for the visually multihandicapped may be more complete than for the hearing multihandicapped since the Canadian National Institute for the Blind acted as the focus for responses regarding the visually multihandicapped. No single organization was able to provide the same comprehensive focus for the other categories in the study.

3. The responses regarding infants may be incomplete since the assessments of some of these children are incomplete.

Nevertheless, despite these limitations, the findings represent the most reliable figures possible considering the currently available data.

Size of the Sensory Multihandicapped Population

The Client Survey identified 247 clients. The Institutional Survey identified 435 clients. These figures may provide the parameters of the population.

Prevalence estimates used in the United States by Murray (1978) and by others suggest that .001% of the American population between 0 and 20 years of age may be deaf-blind and .06% may be multiply handicapped. If these prevalence estimates were applied to the estimated 600,000[1] children between 0 and 23 years of age in Alberta, approximately 365 would be identified as either deaf-blind or multiply handicapped. This figure is midway between the figures obtained through the two surveys. However, the estimated population figure of 600,000 is two years out-of-date. The population of the province has increased since 1977. Therefore, the estimated deaf-blind/multiply handicapped figure might be expected to be adjusted upward to some extent.

Therefore, based upon the results of the surveys and of the prevalence estimates, the sensory multiply handicapped population in Alberta between the ages of 0 and 23 years of age may be approximately 300-400 persons.

Synthesis of the Survey Findings

General. The Client Survey indicated that approximately 61 percent of the sensory multihandicapped population may be male, and approximately 28 percent may be female. Eleven percent of the population remain undesignated. In general, there appears to be a 2:1 ratio of males to females in the sensory multihandicapped population.

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[1] The estimated figure was developed from 1976-77 census figures from Statistics Canada and from Alberta Education.

The distribution of ages amongst the sensory multihandicapped population, as indicated in Table 1, would appear to be fairly evenly spread among the age ranges designated in the survey (0-25 years of age). In addition, a few responses on the Institutional Survey indicated that there are some sensory multihandicapped persons in the Province who are beyond the age of 25. Of the persons within the age range of the study, approximately 20 percent of the population can be found in the pre-school years (2 1/2 - 5 1/2), approximately 20 percent in the elementary school range (5 1/2 - 11 1/2), and another 20 percent in the adolescent or secondary school range (11 1/2 - 17 1/2). Another 20 percent can be found in the post-secondary range (17 1/2 - 25). Infants (0 - 2 1/2) were fewer in the proportion to the other ranges. There were approximately ten percent of the sensory multihandicapped population in the infant range. Twelve percent of the respondents indicated no age range.

Table 1

Age Distribution Among Sensory Multihandicapped Population Between 0 and 25 Years*

Ages (in years)	f	%
0 - 2 1/2	24	9.7
2 1/2 - 5 1/2	48	19.4
5 1/2 - 11 1/2	43	17.4
11 1/2 - 17 1/2	51	20.6
17 1/2 - 25	50	20.2
No Response	31	12.6
Total	247	99.9

* Obtained from Item 2 of the Client Survey.

Both the Client Survey and Institutional Survey attempted to identify the types of sensory multihandicapped within the province. The proportions of the sensory multihandicapped population identified by each survey differed somewhat as indicated in Table 2.

Table 2

Types of Handicaps*

	Client Survey %		Institutional Survey %		Mean %
	f	%	F	%	
Loss of Vision & Other Handicaps		71.7		61.8	69.8
Loss of Hearing & Other Handicaps		9.3		27.1	15.7
Deaf/Blind		16.2		6.9	11.5
No Response		2.8		3.2	3.0

*Obtained from Item 11 of the Client Survey and Item 3 of the Institutional Survey.

Although the results in the surveys differed somewhat, they did indicate that the majority of the sensory multihandicapped appear to have loss of vision plus some other handicapping condition. A mean of the two surveys indicates that approximately 70 percent of the study population would fall into this category. The two surveys differed in their findings regarding which of the remaining two categories, loss of hearing plus some other handicapping condition or deaf-blind, was the second larger group. When the findings of the two surveys are averaged, approximately 16 percent were designated as having loss of hearing plus other handicaps while approximately 12 percent were designated as deaf-blind. There was no response for approximately three percent of the respondents in each survey.

Of the population identified by the Client Survey approximately 70 percent had been individually assessed during the last two years (1977-79) for degree of sensory loss and other handicapping conditions. The assessments were undertaken, as indicated in Table 3, in hospitals, guidance clinics, private settings or in school jurisdictions.

Table 3

Place of Assessment for Degree of Sensory Loss and Other Handicapping Conditions*

Locale	f	%
Hospital	86	34.8
Guidance Clinic	4	1.6
Privately	57	23.1
School Jurisdiction	27	10.9
No Response	73	29.6
Total	247	100

*Obtained from Item 12 of the Client Survey.

Of the 70 percent of the population which was assessed, the majority were assessed in hospitals, and then most frequently by private physicians or specialists

The severity of the handicaps of the population as identified by the Client Survey, taking into consideration the client's sensory impairment and other handicapping conditions, ranged from mild to profound as displayed in Table 4. The level of severity appears to be evenly balanced between those in the mild-moderate range and those in the severe-profound range. However, there are a significant number of non-responses to this item.

Table 4

Overall Level of Handicap of
the Sensory Multihandicapped Population*

Level of Severity	f	%	
Mild	18	7.3	30.3
Moderate	52	21.0	
Severe	39	15.8	30.8
Profound	37	15.0	
No Response	101	40.9	
Total	247	100.0	

*Obtained from Item 13 of the *Client Survey*.

Residence. Both the *Client Survey* and *Institutional Survey* attempted to determine the residential mix for sensory multihandicapped which existed within the province. The majority of the sensory multihandicapped population, as indicated in Table 5, can be found in Zones 3 and 5, with the third largest group residing in Zone 6.

Table 5

Provincial Residential Distribution of Sensory Multihandicapped*

Zones / Survey		North Western Alberta	North Eastern Alberta	Edmonton and area	Red Deer and area	Calgary and area	Southern Alberta	NR	Total
Client	f	5	11	52	9	63	51	56	247
	%	2.0	4.6	21.0	3.6	25.5	20.6	22.7	100.0
Institutional	f	12	2	200	21	168**	32	-	435
	%	2.8	0.5	46.0	4.8	38.6	7.4	-	100.1

*Obtained from Item 3 of the Client Survey and Item 1 of the Institutional Survey.

**Late receipt of Institutional Survey forms indicated that the number of children in Zones 3 and 5 were almost equal. This does not change the major finding which is that the majority of children are found in Zones 3 and 5.

The parental residential pattern follows closely that of the client population, as indicated in Table 6.

Table 6

Comparison of Client and Parent Place of Residence*

		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	NR	Total
Clients' Residence	f	5	11	52	9	63	51	56	247
	%	2	4.6	21	3.6	25.5	20.6	22.7	100.0
Parents' Residence	f	2	4	57	44	67	40	33	247
	%	0.8	1.6	23.1	17.8	27.1	16.2	13.7	100.3

*Obtained from Items 3 and 4 of the Client Survey.

Although the majority of clients appear to reside in the same Zone as parents, as indicated in Table 6, the actual number of clients living at home as displayed in Table 7, would appear to be balanced by those who are residing away from home. Thus, it may be possible that even though clients may reside in the same Zone as their parents, in approximately half the cases the client may not be residing at home.

Table 7

Permanent Place of Residence*
(5 days per week or more)

	Client Survey			Institutional Survey			Mean % of Survey
	f	%		f	%		
a. at home with parent or guardian	113	45.7		180	41.4		43.5
b. with foster parent	21	8.5	42.9	29	6.7	39.5	41.2
c. in a group home	12	4.9		45	10.3		
d. in an institution or nursing home	64	25.9		32+66=98**	22.5		
e. other	9	3.6		-	-		
No Response	28	11.3		83	19.1		15.2
Total	247	99.9		435	100.0		99.9

*Obtained from Item 5 of the Client Survey and Item 7 of the Institutional Survey.

**Includes persons residing "in an institution or nursing home" (32) and those persons residing "on-site" in a training institution (66).

Approximately 44 percent of the population resides at home, while approximately 41 percent resides away from home.

Item 6 of the Institutional Survey which also might have provided residential information was judged unreliable by the researcher. Total responses in Part a.) of this item (96) exceeded the total possible responses (39), leading the researcher to conclude that some respondents may have been responding to the question in reference to the number of persons residing at the institution on a full time basis while others may have been responding in reference to whether or not full time residential provision was avialable at the institution.

Data obtained from the Client Survey would indicate, as displayed in Table 8, that the majority of those sensory multi-handicapped persons who are residing away from home are more than 20 miles from the parental residence.

Table 8

Non-home Based
Client's Distance From Home

Distance (in miles) between client's and parent's residence	f	%	
a. Not applicable (if child is permanent ward)	25	23.6	
b. Less than 10 miles	9	8.5	16.0
c. 10 to 20 miles	8	7.5	
d. 20 to 100 miles	19	17.9	45.3
e. 100 to 200 miles	13	12.3	
f. over 200 miles	16	15.1	
No Response	16	15.1	
Total	106	100.0	

*Obtained from Item 6 of Client Survey.

Program. Both the Client Survey and Institutional Survey attempted to identify the nature and extent of the programming which exists in the province for the sensory multihandicapped. As indicated in Table 9, the major orientation of programs in the province where sensory multihandicapped children are placed is educational, followed closely by a nursing orientation and a specialized orientation. The responses regarding the minor orientations of the programs largely were insignificant. The primary minor orientation of programs may be a specialized orientation such as occupational physiotherapy.

Table 9

Orientations of Provincial
Programs for the Sensory Multihandicapped*

Orientation	Major		Minor	
Type of Program	f	%	f	%
Nursing	50	24.8	2	11.8
Educational	66	32.7	5	29.4
Specialized (e.g. O.T., P.T.)	48	23.8	8	47.1
Other	38	18.8	2	11.8
Total	202	100.1	17	100.1

*Obtained from Items 4 and 5 of the Institutional Survey.

As indicated in Table 10, a day program was provided outside of the residential facility for 30 percent of the client population. However, almost equal proportions of responses to the survey indicate either no program outside of the residential facility, or indicated "no response".

Table 10

Day Programs Offered
Outside of Residential Facilities*

Programs Outside Residence	f	%
Yes	94	38.0
No	83	33.6
No Response	70	28.3
Total	247	99.9

*Obtained from Item 7 of the Client Survey.

Responses to Item 8 of the Client Survey, which requested the respondents to specify the name of the day program outside the residential facility resulted in day programs being identified for 130 clients (52.6%) out of 247. This percentage of persons being served by day programs is considerably higher than the 38 percent indicated in Table 10 as those being served by day programs outside residential facilities. The figure of 52.6 percent may be a closer indication of reality since the respondents were required to specify the name of the program. The results displayed in Table 10 did not require such specification.

The distance between the client's residence and the day program vary. As indicated in Table 11, a day program was provided at the residential site for 19.4 percent of the population. Over 45 percent of the population are served outside the residential site. This latter figure, when compared to data in the foregoing paragraph would reinforce the view that more than 38 percent of the population are actually served away from the residential site.

Table 11

Distance of Programs
From the Residential Site*

Distance in Miles	f	%	
On-site	48	19.4	19.4
Less than 10	86	34.8	45.3
10 - 20	19	7.7	
20 - 50	6	2.4	
50 +	1	.4	
No Response	-	35.2	
Total	247	99.9	

*Obtained from Itme 9 of the Client Survey.

However, these results do not confirm the higher percentage of 52.6%. The average of the three figures is 45.3 percent and may be considered a reasonable indication of the percentage of programs which are provided away from the client's residence. However, even this figure must be accepted cautiously since there were large "no response" categories for this question as displayed in Tables 10 and 11. The majority of the clients appear to live within 10 miles of the day program site.

The number of days that clients spent in programs varied considerably as displayed in Table 12. The majority of the population received between 200 and 300 days of programming per year. However, there was also a large group of "no responses" regarding this item. The remaining percentage was scattered among the other response categories.

Table 12

Frequency of
Day Programming*

Days/Year	f	%
Less than 50	11	4.5
50 - 100	4	1.6
100 - 150	9	3.6
150 - 200	19	7.7
200 - 250	51	20.6
250 - 300	40	16.2
over 300	20	8.1
No Response	93	37.7
Total	247	100.0

*Obtained from Item 10 of the Client Survey.

Individuals are discharged from programs as a result of attaining a specified age criteria which can range between 66 and 288 months although 252 months (21 years) was mentioned most frequently i.e. three times out of eight. Other criteria for discharge were highly flexible although discharge appears to occur largely when the existing program offers no further advantage to the client. This may mean that the client is simply no longer progressing or that the client has progressed to a stage where a more advanced program at another location seems to be more suitable.

When sensory multihandicapped clients leave a particular facility, they are accommodated for residential or for further programs in a variety of settings. In terms of residences, they are usually accommodated in group homes, foster homes or institutions. For further programming, the sensory multihandicapped individuals may go into school programs, group home programs, rehabilitation workshop programs, or employment settings.

Staffing. The number of staff employed by agencies in the province in programs directly related to programs for the sensory multihandicapped population (full time equivalent) is provided in Table 13. The major staffing resource appears to be nursing aides followed closely by teachers. In general, a total of 407 staff were identified in the survey as currently serving in programs for the sensory multihandicapped population in Alberta. This provides slightly less than a 1:1 ratio of staffing for this population.

A review of the qualifications of the staff serving the sensory multihandicapped was undertaken as part of the overall survey. The responses in this area were inconsistent. Nevertheless, in Calgary two individuals were identified as having highly specialized training in the area of blindness and the multihandicapped. A handful of other individuals were identified who have one, or possibly two courses of training in multihandicapping conditions.

Table 13

Staff Currently Employed in Programs Serving the Sensory Multihandicapped

Category	Number
Teachers	89
Physicians	4
Psychologists	6
Nurses	44
Social Workers	8
Physiotherapists	5
Speech Therapists	4
Occupational Therapists	3
Teacher Aides	22
Child Care Workers	32
Institutional Service Workers	20
Nursing Aides	92
Office Staff	18
Household Staff	26
Other	34
Such as administrators (3), Rehabilitation counsellors (16), Volunteers (4) and Language Therapists (5)	Total 407

*Obtained from Item 10 of the Institutional Survey.

Non-Resident Students

Directors of Special Education in Saskatchewan and British Columbia were contacted to determine the number of sensory multihandicapped individuals who could be referred to programs in Alberta. Both neighboring provinces indicated an interest in the possibility of placing students in a program in Western Canada. However, the number of students identified was not sufficient to significantly affect the program needs. It is anticipated that, when programs for sensory multihandicapped persons in Alberta become fully operational, requests for placement of out-of-province students will be accepted.

Summary

1. Size of Population - Approximately 300 - 400 persons.
2. Sex - Approximately a 2:1 ratio of males to females.
3. Ages - 0-25 years fairly evenly spread amongst the infant, pre-school, elementary, secondary, and post school age ranges.
4. Types of Handicaps - Loss of vision plus other handicaps - 70% of the p[illegible]ation
    - Loss of Hearing plus other handicaps - 16%
    - Deaf-Blind - 12%
    - Undesignated - 3%
5. Assessment in the past two years
    - Approximately 70 percent of the population were assessed sometime during the last two years, most frequently in a hospital, or privately by a physician or other specialist.
6. Level of Severity of Handicaps
    - Level of severity appears to be evenly balanced between those in the mild-moderate range and those in the severe-profound range.
7. Residence -
    - The majority of the clients reside in either Zone 3 or 5.

- The client's place of residence appears to be evenly balanced between those living at home and those living away from home.
- The majority of those living away from home are more than 20 miles from the parental residence.

8. Programs

- The major orientation of programs in the province is educational followed closely by nursing and specialized orientations.
- Programs are provided outside residential settings for approximately 45% of the population.
- For those persons provided a program off-site from the residence, the majority travel no more than 10 miles to the program site.
- The majority of the population receives between 200 and 300 days of programming per year.
- Individuals are discharged from programs largely when their existing program offers no further advantage to them.
- Upon discharge from a program, clients may reside in group homes, foster homes, or institutions, and may obtain placement in school programs, group home programs, rehabilitation workshop programs, or employment settings.

9. Staffing

- The major staffing resource in Alberta for the sensory multihandicapped appears to be nursing aides followed closely by teachers.
- Currently there is slightly less than a 1:1 ratio of service personnel to clients.
- There are very few staff in Alberta with highly specialized qualifications pertinent to the services required by the sensory multihandicapped population.

APPENDICES

Sensori Multihandicapped Project
Demographic Survey
Client Information

1. Male ☐ Female ☐

2. Date of Birth ☐☐ Day ☐☐ Month ☐☐ Year

3.

Parents' Residence (note attached map)	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
	☐	☐	☐	☐	☐	☐

4.

Clients' Residence (note attached map)	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
	☐	☐	☐	☐	☐	☐

5. Does client reside on a permanent basis (five days per week or more)

   a. at home with parent or guardian 1 ☐
   b. with foster parent 2 ☐
   c. in a group home 3 ☐
   d. in institution or nursing home 4 ☐
   Specify ______________________
   e. Other (describe) ______________ 5 ☐
   ____

6. For clients who do not reside with parents, indicate distance in miles between parent's and client's residence:

   a. Not Applicable (if child is permanent ward) 1 ☐
   b. Less than 10 miles 2 ☐
   c. 10 to 20 miles 3 ☐
   d. 20 to 100 miles 4 ☐
   e. 100 to 200 5 ☐
   f. over 200 miles 6 ☐

7. Type of placement for day program:

   Day program is provided outside of residential facility Yes ☐ No ☐

8. If client participates in a day program outside the residential facility specify name of program.

   ______________________________ Office Use Only ☐☐☐☐☐

9. Distance between client's residence and day program:

   a. Day program provided on residential site only 1 ☐
   b. Less than 10 miles 2 ☐
   c. 10 to 20 miles 3 ☐
   d. 20 to 50 miles 4 ☐
   e. over 50 miles 5 ☐

10. Frequency of day programming:

a. Less than 50 days per year	1 ☐		e. 200 to 250 days per year	5 ☐
b. 50 to 100 days per year	2 ☐		f. 250 to 300 days per year	6 ☐
c. 100 to 150 days per year	3 ☐		g. over 300 days per year	7 ☐
d. 150 - 200 days per year	4 ☐			

11. Handicapping conditions: (check all those applicable)

Sensori Handicapping Conditions

a. Loss of Hearing ☐

b. Loss of Vision ☐

Additional Handicapping Conditions.

c. Physical ☐

d. Emotional ☐

e. Mental ☐

12. Has this client been individually assessed during the last two years for degree of sensory loss and other handicapping conditions (educational, developmental, psychological, physical) by: (check all those applicable)

a. A Hospital (specify) ________________________________ ☐

b. A Guidance Clinic (specify) ___________________________ ☐

c. Privately (specify) _________________________________ ☐

d. A School Jurisdiction (specify) ________________________ ☐

13. Taking into consideration the client's sensory impairment and other handicapping conditions, what is your assessment of the client's overall level of handicap at this time?

a. Mild 1 ☐

b. Moderate 2 ☐

c. Severe 3 ☐

d. Profound 4 ☐

Sensori Multihandicapped Project
Demographic Survey

Name, Address and Phone Number of Institution:

Name and Position of Contact Person:

1. Total enrollment of sensori multihandicapped population: ☐☐☐

2. Age range in months of sensori multihandicapped population: ☐☐☐ - ☐☐☐

3. Number of sensori multihandicapped persons enrolled who could be categorized as:
   - a. Visually impaired ☐☐☐
   - b. Hearing impaired ☐☐☐
   - c. Deaf/Blind ☐☐☐

4. Major orientation of program offerred:
   - a. Nursing 1 ☐
   - b. Developmental or Educational 2 ☐
   - c. Specialized program offering occupational, physio, speech or other therapy 3 ☐
   - d. Other 4 ☐

   Indicate: ____________________

5. Minor orientation of program: (if applicable)
   - a. Nursing 1 ☐
   - b. Developmental or educational 2 ☐
   - c. Specialized program offering (occupational, physio, speech or other therapy) 3 ☐
   - d. Other 4 ☐

   Indicate: ____________________

6. Residential provision:
   - a. Full time or nearly full time (5 or more days per week) 1 ☐
   - b. Temporary or respite care 2 ☐
   - c. No residential component 3 ☐

7. Indicate number of sensori multiply handicapped individuals served by your agency who reside:
   - a. at home with parent(s) or guardian(s) ☐☐☐
   - b. with foster parent(s) ☐☐☐
   - c. on-site ☐☐☐
   - d. in group homes separate from facility ☐☐☐
   - e. in institutions or nursing homes ☐☐☐
   - f. other ☐☐☐

   Indicate: ____________________

8. What are the criteria for having sensori multihandicapped clients discharged?

a. Age (designate in months) ☐☐☐

b. Other criteria (specify) ____________________

____

9. Where are sensori multihandicapped clients who leave your facility accommodated (residentially and for further programs)? Please be as specific as possible.

____

____

____

10. Number of staff employed by agency in programs directly related to programs for the sensori multihandicapped population (full time equivalent):

Teachers ☐☐

Physicians ☐☐

Psychologists ☐☐

Nurses ☐☐

Social Workers ☐☐

Physiotherapists ☐☐

Speech therapists ☐☐

Occupational therapists ☐☐

Teacher aides ☐☐

Child care workers ☐☐

Institutional service workers ☐☐

Nursing aides ☐☐

Office staff ☐☐

Household staff ☐☐

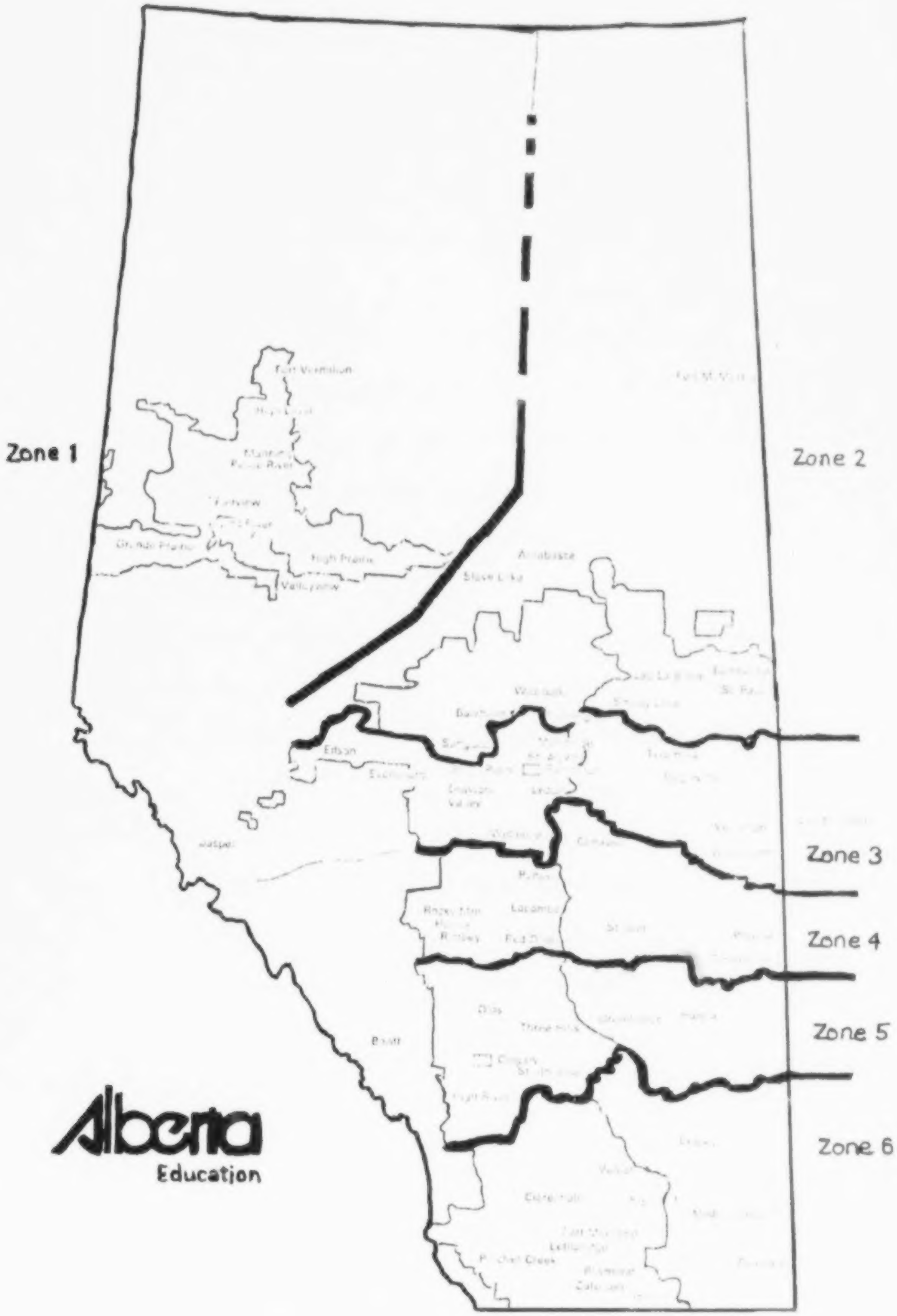
Other ☐☐

Please designate: ____________________

____

11. For agency employees having specific training in the specialty areas of deafness, blindness, multihandicaps or deaf-blindness indicate specialized training completed (highest degree obtained only).

	Deafness	Blindness	Multi-Handicapped	Deaf/Blind	Educational Institution	No. of Courses	Employees Present Position
University - 1 Yr							
University - 2 Yrs							
University - 3 Yrs							
Community College 1 Yr							
Community College 2 Yrs							
BA							
BEd							
BSc							
MA							
MEd							
MSc							
EdD							
PhD							


Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Fort Vermilion
High Level
Manning
Peace River
Fairview
Grande Prairie
High Prairie
Valleyview
Athabasca
Slave Lake
Fort McMurray
Lac La Biche
St. Paul
Westlock
Barrhead
Edson
Edmonton
St. Albert
Leduc
Jasper
Camrose
Ponoka
Lacombe
Red Deer
Rocky Mtn. House
Didsbury
Three Hills
Drumheller
Banff
Calgary
High River
Vulcan
Claresholm
Fort Macleod
Lethbridge
Pincher Creek
Cardston
Medicine Hat

Alberta
Education

RESPONDING INSTITUTIONS

Edmonton

Aberhart Memorial Hospital

Activity Center for Dependent Handicapped

Alberta College

Alberta Hospital (Oliver)

Association for the Hearing Handicapped

Behavior Management Services

Canora (Community Resource Center)

Edmonton Public School Board

Edmonton Separate School Board

Elves Memorial Child Development Center

Eric Cormack Center

Resource Center for the Dependent Handicapped

Robin Hood School

Rosecrest Home

Royal Alexandra Hospital

Western Industrial Research & Training Center

Winnifred Stewart School

Calgary

Alberta Children's Hospital

Baker Center

Calgary Separate School System

Calgary cont'd

Christian Deaf Center

C.N.I.B.

Margaret House

Vocational & Rehabilitation Research Institute

Other Areas

Dr. R. R. Cairns School (Vegreville)

Falher Class for the Mentally Retarded

Grande Prairie School District No. 2357

Hillside Ft. McMurray School for the Handicapped

Lakeland School (Grande Center)

Lenora Clarke School (Vermilion)

Lethbridge School District No. 51

Lyn Lauren School (Wetaskiwin)

Michener Center (Red Deer)

Muriel Rowe School (Drumheller)

New Hope School for the Mentally Retarded (Vermilion)

Oyen Public School

Peace River School Division No. 10

School of New Hope (Barrhead)

Wetaskiwin Center

SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

Supplement # 3

Summary of Briefs
Presented to the
Planning Team

BRIEFS PRESENTED TO THE PLANNING TEAM: A SUMMARY

The Planning Team requested written submissions regarding the development of the proposed program and facility. Fifteen responses were received. Of these, one was received from parents, six were received from school jurisdictions, seven were received from provincial associations and one was from a university. One of the fifteen responses was a request for the location of the proposed facility in a particular area and two were simply indications that no submission was forthcoming. Therefore, the summary of the written submissions and recommendations is based upon the views expressed in twelve of the fifteen submissions.

The briefs were analyzed to identify the major items of concern and to identify the number of times that particular items were mentioned. A summary of the items which appeared more than once, and the frequency of their identification, is summarized as follows:

Summary of Topics of Concern
Identified in Briefs

Topic of Concern	Identification Frequency
1. Program - should be individualized	3
- should encompass a continuum of services (including identification, assessment, placement, program content, follow up, parental services, public education, and evaluation)	13
- particularly assessment	(6 out of 13)

Topic of Concern		Identification Frequency
	- should be no age limit in terms of availability	6
	- should have parental involvement	3
	- should be based upon integration principles as much as possible	3
	- should have a classroom ratio of teacher to student of no greater than 1:3	7
	- should be the responsibility of school jurisdiction	3
2. Staff	- should be highly qualified	3
	- should be provided an attractive wage/working benefits package	3
	- should provide extensive support services to clients	5
3. Facilities		
	- one in Northern Alberta and one in Southern Alberta with additional resource centers (classrooms) in other parts of the province as needed	3
	- if residential requirements exist, placement should be in homes first, and group homes second	2
	- centralization is necessary even if not desireable	3
	- integration into the community as soon as possible	2
4. Coordination		
	- will be required between school boards, between boards and government, and between government departments	3
5. Teacher Training		
	- programs are required in Western Canada	3

In general, the briefs submitted to the Project Team identified no areas of concern which were not already under consideration by the Team. The key items of the briefs are summarized as follows:

1. Program - There is a need for a complete continuum of services, particularly assessment, using highly trained professionals. The program should be highly individualized and should be as close to home as feasible, using parents as primary teachers with considerable support from a more centralized program/ staff. Any centralized program or facility with residential requirements should use foster homes or group homes (the normalization principle). A need exists for a wide variety of support personnel and services.

2. Responsibility - School boards should provide the program with significant input from government departments -- particularly Social Services and Community Health and Education. There is a strong need for cooperation among boards and government agencies.

3. Staffing - Staff should be highly qualified and have ample opportunity for professional improvement. Suggested ratios of staff to students ranged from 1:3 to 1:1.

4. Facilities - Facilities in local areas would be desireable, but may not be feasible. One facility in Calgary and one in Edmonton were suggested with a number of classes in smaller centers on the basis of need.

5. Teacher Training - There is a need for highly qualified teachers. This may require the development of a training program to be developed in a Western university.

In summary, the briefs highlight the need for services for the sensory multihandicapped. The desired services are to be based upon the principles of normalization and independence.

One brief, developed near the end of the planning period, at the request of the Planning Team, outlined the Occupational Therapy Services for a sensory multihandicapped population. Many of the concerns previously identified were reiterated. In addition, specific recommendations were listed pertaining to staffing, physical facilities, fieldwork, research opportunities, and parental involvement.

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10. Association for the Hearing Handicapped
11. Alberta Society for the Visually Impaired
12. Administrators Association, County of Minburn
13. Canadian National Institute for the Blind
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15. Helen M. Madill and E. S. Brintnell, Department of Occupational Therapy, University of Alberta, Edmonton.

SENSORY MULTIHANDICAPPED PROGRAM
PLANNING PROJECT

Supplement # 4

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Utilized

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Service District
101 N. Grape
Medford, Oregon 97501

Teaching Research Infant
and Child Center
Monmouth, Oregon 97361

Association for Education of
the Visually Handicapped
919 Walnut Street, 4th Floor
Philadelphia, Pennsylvania 19107

Elwyn Institute
Elwyn, Pennsylvania 19063

North American Association on
Services for Deaf-Blind Children
and Youth, Department of Special
Education and Rehabilitation
University of Pittsburgh
5M 32 Forbes Quadrangle, 230 S. Banquet
Pittsburgh, Pennsylvania 15260

Overbrook School for the Blind
64th and Malvern Avenue
Philadelphia, Pennsylvania 19151

Western Pennsylvania School for
Blind Children
Bayard Street at Bellefield
Pittsburgh, Pennsylvania 19151

The Woods Schools and Residential
Treatment Center
Langhorne, Pennsylvania 19047

South Dakota Department of Education
Division of Elementary And
Secondary Education
Richard F. Kneip Building
Pierre, South Dakota 57501

Callier Hearing and Speech Center
1966 Inwood Road
Dallas, Texas 75235

Eastfield College
c/o Dallas Association for
Retarded Citizens
2114 Anson Road
Dallas, Texas 75235

South Central Regional Center
Services to Deaf-Blind Children
2930 Turtle Creek Plaza
Suite 216
Dallas, Texas 75219

Stonewall Jackson School
5828 East Mockingbird Lane
Dallas, Texas 75231

Texas Education Agency
201 East Eleventh Street
Austin, Texas 78701

University Affiliated Center
5323 Harry Hines Boulevard
Dallas, Texas 75235

Utah State University
Logan Utah 84322

Virginia Commission for
the Visually Handicapped
206 N. Washington Street
Alexandria, Virginia 22314

The West Virginia System
311 Oglebay Hall
West Virginia University
Morgantown, West Virginia 26506

Washington State Department
of Public Instruction
Old Capitol Building
Olympia, Washington 98504

The University of Washington
Seattle Washington 98195

Materials Development Center
Stout Vocational Rehabilitation
Institute
University of Wisconsin
Stout Menomonie, Wisconsin 54751

South Carolina School for the
Deaf and the Blind
Spartanburg, South Carolina 29302

SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

Supplement # 5

Resource Centres: Proposed Architectural Specifications

Resource Centers:

Proposed Architectural Specifications

The preliminary investigation will provide information related to:

1. The Educational Plan
2. Description of Activity Areas
3. General Building Considerations
4. Summary of Spatial Relationships
5. Summary of Spatial Requirements
6. General Cost Estimates

The Educational Plan: General

One Resource Center in Edmonton and one in Calgary will serve the needs of a sensory multihandicapped population base of approximately 150-200 children. The Resource Centers are the key to programs and services for the sensory multihandicapped. The Resource Centers have five major objectives:

> to foster the development of each sensory multihandicapped person to his/her fullest potential;
>
> to provide educational assessment services;
>
> to provide coordination among home, community outreach, residential and program services within a specific region;
>
> to promote appropriate integration with the community; and
>
> to promote services for the involvement and organization of concerned parents.
>
> In particular, the Resource Centers will:
>
> coordinate an on-site developmental assessment day program for approximately 5 persons;
>
> operate in proximity to a day program for approximately 20 deaf-blind students; and
>
> coordinate the following services on behalf of the sensory multihandicapped in Alberta:

1. Community Awareness and Involvement
2. Early Identification
3. Early Intervention
4. Assessment and Program Planning
5. Curriculum Development
6. Staff Development
7. Program Consultation

8. Materials and Resources
9. Research and Evaluation
10. Summer Programs
11. Parent Programs

Each Resource Center will be headed by a coordinator. It will be the duty of the coordinator to provide liaison with those agencies providing school and residential programs in order to ensure consistent and comprehensive services for all sensory multihandicapped children in Alberta.

As well, the Resource Center will provide liaison with the school(s) conducting educational programs for students who have been assessed at the Center.

The physical expression of the Centers is expected not only to embody the general principles of good design, but also to meet these specific objectives:

> create as normal a setting as possible, while, at the same time, meeting the special needs of the sensory multihandicapped;
>
> create a building compatible with the surrounding neighborhood;
>
> create a building which embodies the relationships outlined in this report; and
>
> create a building which is attached to and utilizes available space in an operating school to the extent possible.

The Educational Plan: Instructional

The Centers will provide a comprehensive assessment service for sensory multihandicapped children from birth to 23 years of age.

The results of the assessment program will be the Individualized Educational Programs for the children, to be implemented in homes and schools by education interventionists and teachers. The Centers will provide on-going reviews of the Individualized Educational Plans of the children.

Assessment has typically included such areas as social history, physical examination, neurological examination, psychological examination, hearing examination, vision examination, speech examination and educational examination. The educational examination includes assessment in the developmental areas of gross motor or large muscle development, fine motor or small muscle development, visual perceptual development, reasoning, receptive and expressive language, plus social and emotional development. The attainment of proficiency in skills related to these developmental areas can best be accomplished through the development of Individualized Educational Programs derived from extensive and intensive assessment of the child's existing and potential capabilities. Once the assessment has been completed, an Individualized Educational Program should be developed based upon the concepts of task analysis and behavioral modification.

The realization of maximal independence for each child through Individualized Educational Programs can be best accomplished through a team approach to assessment with delivery of the program the primary responsibility of a teacher, preferably working with the child in their home community. A secondary setting for the provision of services will occur in specialized and centralized locations. This implies that the children should be educated and served in as integrated and normalized a setting as is feasible for their level of disability.

The Educational Plan: Support

The staff requirements reflect the need for a highly specialized, highly qualified permanent staff as well as contracted staff. The staff in each Resource Center and adjacent school program who will have the capability of serving up to 25 students on-site at any one time, are:

Coordinator	1
Program Specialist	1
Clerical Staff	3
Itinerant Staff	4
Teachers	5
Aides	5
Materials Resource Center Staff (Other than clerical staff)	8
Educational Audiologist	1
Speech Therapist/Communication Specialist	1
Occupational Therapist	1
Physiotherapist	1
Psychologist	1
Social Worker	1
Medical Staff (including part-time nurse, pediatrician, opthamologist, otologist)	1
Custodians	2
Total staff	36

Description of Activity Areas

Each Resource Center will need to provide for the following specialized areas: reception, administration, staff lounge/lunchroom, assessment/therapy, gross motor, classroom, observation, independent living training, exterior play ground, therapeutic pool, materials resource center, storage, and mechanical/ maintenance.

1. Reception Area - The reception area should be the visitor's first contact with the building. A receptionist should be available to direct the visitor to other areas within the Resource Center, or to direct them to a location within the reception area which should be large enough to seat six to eight waiting persons. The reception area should have direct access to the office and assessment areas, indirect access to teaching areas, and convenient access to other activity areas such as the parent area, materials resource center, pool and observation rooms. The reception area should be designed to place visitors at ease. Visually, the area should have access to the primary task being accomplished within the building, possibly by having the reception area open into the gross motor area where children will be learning under the supervision of Center staff. Public washrooms should be available in this area.

2. Office Area - The office area encompasses office space for the various administration and administration-related activities. Separate offices will be required for the coordinator and the Program Specialist. As well, group office space will be required for itinerant staff. These staff offices should be shared by four staff members. A separate office area should be available for part time consultative staff. A common location

should be designated for the work of the clerical staff. A communal work room for group preparation of teaching materials and storage of office materials, and expendable materials used by itinerant teaching staff should also be available in this area.

The offices of the Coordinator and Program Specialist should have direct access to the reception area and the clerical staff, indirect access to the other staff offices and the work room, and convenient access to other areas in the Center. The offices of the itinerant teaching staff should have indirect access to clerical staff, the workroom, and the staff lounge, and convenient access to other areas of the Center. Offices for part-time consulting staff should have direct access to the assessment and therapy areas, indirect access to the staff lounge, and convenient access to other areas of the Center, particularly the teaching areas and observation rooms. All work spaces should have desk and storage space sufficient to serve the occupying staff.

This area also should have two small conference areas for six persons, and one larger area for fifteen to twenty persons. The larger area would be used for assessment team meetings, parent organization meetings and staff development activities and seminars. A small kitchenette area should be available for use by groups using the facility in the evening. These conference areas should have indirect access to the reception area, and convenient access to other areas of the Center.

3. Staff Lounge/Lunchroom Area - The staff lounge should have indirect access to the office and assessment/therapy areas, and convenient access to all other areas in the building. A small kitchenette should be available to staff to prepare hot lunches or coffee. Staff washrooms should be available in this area.

4. Assessment/Therapy Area - The assessment area provides spaces for the individual assessment of students by a number of staff, office space for contracted specialists, and special therapy rooms. The assessment areas/office areas will be required for an audiologist, speech therapist/communication specialist, occupational therapist, physiotherapist, psychologist, social worker, and medical staff. With the exception of the medical staff, each staff member will require an area large enough to accommodate office equipment and appropriate storage facilities, an area large enough to accommodate the specialized equipment used by that particular professional and an area large enough to permit work with individual children. The area for the medical staff should be a small office as well as a small clinical or infirmary area.

All of the assessment areas should have direct access to the gross motor area, and reception area. They should have indirect access to the office and staff lounge areas, as well as the teaching and observation areas. These offices should be conveniently located to all other activity areas in the Center.

5. Gross Motor Area - This area should be an area for gross motor experiences for the children, as well as an assessment and training area. In addition, activities in this area should be used to introduce visitors to the work of the Center. It should provide a variety of tactile, olfactory, auditory, and visual experiences to the children. As such, this area should contain large open spaces, some smaller "cubbyholes," an "adventure playground," and some plant life. This gross motor area should be open, possibly through the use of a raised ceiling and extensive skylighting. However, beams should run across the area to permit the hanging of swings or climbing aparatus. The plants may be decorative but should have varying textures and odors. Walls and floors should also have a variety of textures. The floors should be carpeted to prevent injury to children when they fall.

This area should have direct access to the reception area, the assessment areas, classroom areas, observation rooms, the pool, and the materials resource center. Indirect access will be available to the office area, and convenient access to the staff lounge area.

6. Classroom Areas - The classroom areas are to serve as teaching rooms for twenty deaf-blind children and for five children who are undergoing assessment. If the Center is operating at capacity, there will be five teachers and five aides working with the twenty-five students at any one time.

The classroom areas will need to be flexible, since the numbers of students and their individual needs may vary from time to time. The most reasonable means for the provision of space flexibility may be through the use of demountable partitions. These areas should have direct access to the gross motor area, washrooms and observation rooms. They should have indirect access to the materials resource center, pool, assessment areas, and reception area. Convenient access to other areas of the building will be necessary. Washrooms should be available in each classroom area.

7. Observation Areas - These areas should be available for research personnel, visitors, contracted consultant staff, and parents to observe the students unobtrusively. These areas should be adjacent to the classroom area and provide visual contact through one-way glass and auditory contact through a sound system. They should not be distractive to students or staff working in the classroom area. As well, some means must be taken to notify staff that the observation area is being used.

8. Independent Living Training Area - This area should simulate a home environment wherein students can learn independent living skills. The area should include a kitchen, dining and livingroom, and bedroom. The independent living unit should have direct access to observation areas, classroom areas, and gross motor area. This unit should have indirect access to the assessment area and convenient access to other areas of the Center.

Most of the activity in this area will occur on an individual or small group (three or four persons) basis.

9. Exterior Playground - There is a need to provide the students with outdoor experiences. This may be partially accomplished through an outdoor playground and nature park. The major intent is to expose the students to a number of tactile, auditory, visual, and olfactory experiences. The area should be safe yet challenging to students. The playground should have direct access to the gross motor area and the classrooms. The exterior playground should have convenient access to other areas in the Center.

10. Therapeutic Pool - There is considerable need for mobility training and physical therapy with the sensory multihandicapped. A therapeutic pool(s) is necessary for such training and therapy. As well, the pool should be available to community use when not in use by the Center. The therapeutic pool area may actually house more than one pool. For example, a smaller hydrotherapy pool for use by one individual may be desireable in addition to a larger pool for use by small groups. This area should be directly accessible to the gross motor area and classrooms, and convenient to other areas of the Center.

11. Materials Resource Center (MRC) - This area is intended to provide storage and control for much of the special equipment used in the Center, to provide a lending service for toys and books for the sensory multihandicapped, a library of public

information materials, to provide a control center for a Resource Center closed circuit television system, and to provide a lending and repair center for electrotechnical aids to be used by the sensory multihandicapped in the region. As well, this area will include a transcription area where written materials can be translated into braille or audiotapes. The MRC will operate under the direction of a librarian. The librarian will be responsible for two secretaries, one electrotechnical technician, and five other staff in such areas as cataloguing, inventory control, transcription and taping, and proofreading. The specific spaces required within the MRC will include a librarian's office, desk space for the secretaries, work area for the braille transcriber, one or two sound booths for taping, storage areas for braille materials, tapes, toys, and electrotechnical aids. A small repair workshop for use by the electrotechnical aids technician will also be required.

The MRC should have direct access to an outside public parking area and to a service entrance for a receiving/distribution section. As well, the MRC should have indirect access to the gross motor area, classrooms, assessment area, and observation area. Convenient access to other areas of the Center also is necessary.

12. Storage - The major storage area for equipment and materials in use in the Center will be the MRC. Nevertheless, some appropriate storage area should be available in each room/area

in the Center. In general, more storage space than is usual in a public building will be required because of the special equipment used in the facility.

13. Mechanical/Maintenance Area - This area will be used to house the heating-ventilating system, and the central junction boxes for all utilities. This area should also house all maintenance equipment and supplies, and act as a receiving area for service deliveries to the Center. As well an office/lounge for the custodial and maintenance staff should be provided. The mechanical/maintenance area should have direct access outside, and convenient access to other areas of the Center.

General Building Considerations

1. Aspects of Exterior Construction - The building should be a single story building to facilitate student mobility, particularly those confined to wheelchairs. The observation rooms may be on a second level, although this may not be necessary.

The entrances to the building are numerous: one primary entrance, a pool entrance, an MRC entrance, a service area entrance, and entrances to the classroom areas. The entrances should be sheltered so that those entering the building are not unnecessarily exposed to the weather. The multiple use of entrances permits independent operation of certain areas of the building while permitting other areas to be secured. As well, the multitude of exits is a definite advantage in case of an emergency such as a fire. One entrance should have an unloading dock to permit exit from a bus without having to use hydraulic lifts or other such lifting aids. Some flexibility of overall design is necessary to permit future expansion if needed.

2. Aspects of Interior Planning - A number of detailed suggestions regarding interior planning are appended. Nevertheless, a few general factors, obtained from the Guide for Planning Educational Facilities (Council of Educational Facility Planners, Columbus, Ohio: p. 6-4) can be identified for facility design which will assist the students to function safely and with as much mobility as possible. These factors are:

> At least one primary building entrance, automatic doors (with pressure sensitive mats and appropriate time-delayed closure) which slide rather than swing open.
>
> Ramps instead of steps and curbs, both inside and outside buildings.
>
> Carpeting on floors to reduce slipping and to cushion falls.
>
> Wide classroom entryways without doors (which permit students free access) but which restrict visual and auditory exposure to the corridors.
>
> Use of safety glass for doors and accessible windows.
>
> Avoidance of sharp corners, surfaces, and projections.
>
> Toilets that are convenient and available, with space and hardware to permit independence.
>
> Hardware on doors, sinks and cabinets that can be used by all exceptional students and can be quickly identified by the blind.
>
> Vertically adjustable chalkboards set approximately 18-20 inches away from the wall to permit use by students in wheelchairs.
>
> Horizontally mounted railings or grab bars.

Furniture that can be adjusted vertically and horizontally to meet the needs of individuals or groups of students.

Specially designed storage spaces to accommodate wheelchairs, walkers, standing tables and other large equipment.

Raised or recessed signage to identify rooms and spaces.

Additionally, careful attention must be given to emergency and fire protection systems including easily operated emergency doors, barrier free corridors, and warning signals that are comprehensible to all exceptional students.

Fire alarms, for example, must be equipped with audio signals for the blind and visual signals for the deaf.

In general, the activity areas should be texturally, visually, auditorially, and olfactorally distinctive and varied as much as possible. The spaces should encourage spontaneous as well as highly structured learning activities and provide for many flexible, simultaneous activities involving large groups, small groups and individuals. The center should provide a warm, textured, safe, homelike atmosphere.

The Council of Educational Facility Planners (p: J-10-11) have provided a number of general suggestions regarding furniture and equipment for disabled persons. The list of criteria which follows is intended as a basic checklist with which to evaluate and compare products. Other more specialized equipment will be necessary and appropriate for specific and special activity areas.

1. Furniture and equipment should not have protrusions which create an obvious safety hazard to the user. The legs of a chair, for example, should not protrude beyond the outermost vertical plane of the chair.

2. Furniture and equipment should not have edges which are sharp and composed of dense material. Ideally, edges should be rounded and composed of or covered with a resilient material.

3. Furniture and equipment should be curvilinear and resilient wherever possible in order to maximize comfort and minimize injury.

4. Furniture and equipment should be stable and offer support to the user and occasional passerby. Although the arms of a chair are primarily supports, the back of a chair is also a possible support object. A chair back should be of a height, strength, and shape which would encourage its use as a railing.

5. The disabled individual in many cases has difficulty interpreting the physical environment due to a physical, emotional, or visual disability. For this reason, elements within an object (the arms, legs, back and seat of a chair), between objects (a table and a chair) or between an object and its background (a drinking fountain and the wall on which is it mounted) should be easily distinguishable. Environmental clarity which prevents confusion and injury can be achieved by a variety of techniques. One of these is the use of color and/or texture to create contrast. Another is to allow spaces between important elements of an object. Objects intended to give support should be easily perceived. For example, the arms of a chair should be easily distinguishable from other elements of that chair, and easily identified against the background surfaces of the wall and floor. The numbers and letters in signage should be easily interpreted. Careful consideration should be given to letter size, contrast of letters and their background, and the height of placement.

6. Furniture and equipment can provide a feeling of safety and security, both physically and psychologically. For this reason, the following criteria should be used in the selection of furnishings and equipment:

(a) Objects and materials should not appear to be something other than what they are. Materials, for example, which indicate strength or hardness should in fact be strong and dense. Materials which simulate wood, brick, cloth, etc., should be avoided. Storage cabinets should not have fake drawers and hardware.

(b) Finishes with high reflectance on tables, floors and walls should be avoided because they may create confusion.

(c) Large areas of glass should be carefully designed. Colored markings can be used to define glass in order to prevent individuals from walking into it.

(d) The design of furniture and equipment should maintain structural integrity. Objects should not appear to defy gravity. They should not only be secure and stable, but should appear secure and stable to the user.

(e) The unnecessary use of mirrors and mirrored walls should be avoided except when employed for therapeutic purposes.

(f) The repetition of furniture and equipment layouts should be avoided where it will contribute to the confusion of the building user, i.e., identical elevator lobbies. One's sense of the space-time relationship can be distorted by environments which have identical, repetitive elements in space, i.e., a corridor with identical and evenly spaced floor, ceiling, door, and lighting details. Furnishings and equipment can be useful in providing a sequential experience in the environment by introducing variation in color, texture, form and space definition.

7. Furnishings and equipment should have non-glare surfaces to reduce eye fatigue and distractions. Matte finishes should be specified.

8. Sliding doors on storage units are preferable to swinging doors for ease of manipulation and minimal retrieval time. Depth of shelving should be appropriate for item stored, thus aiding visual identification.

9. Seating should:

(a) support the spinal lumbar curve;

(b) avoid extremely hard seats which excessively compress the flesh;

(c) avoid excessive padding which increases pressure around the peripheral edges of the body and increases the difficulty of sitting down and rising;

(d) have seats which afford sufficient friction to avoid slipping.

10. Furniture and equipment should be resistant to staining, scratching, chipping, and heat.

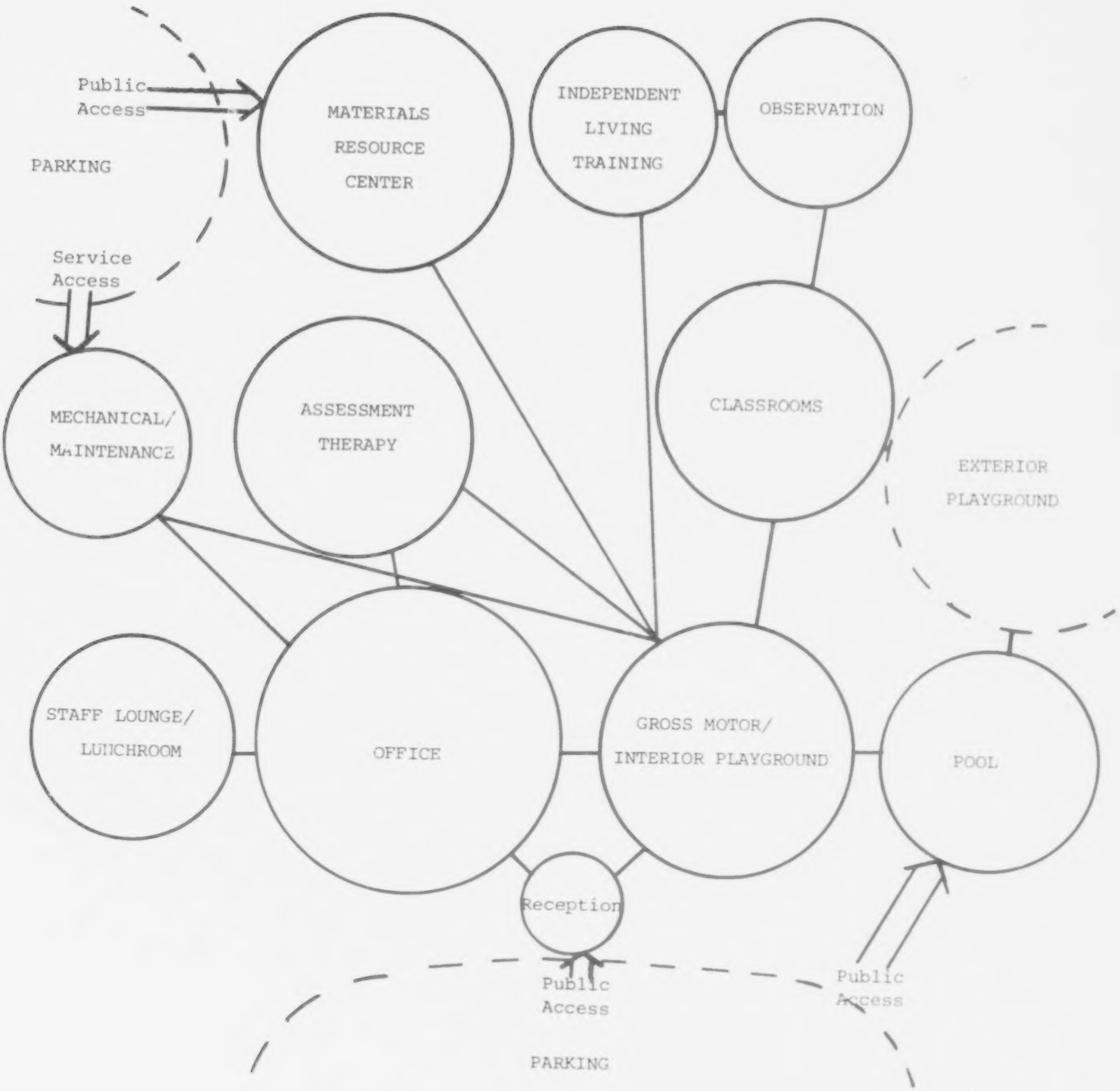
11. Furniture and equipment should be composed of non-allergenic materials.

3. Community Use - Three areas of the Center should be available for use by the community. The pool should be available to the community when not in use the the Center, or in a carefully supervised cooperative fashion. The MRC will be open to the public for the reading or borrowing of public education materials regarding the sensory multihandicapped. As well, other agencies and individuals who are working with the sensory multihandicapped may wish to use the MRC as a major informational or equipment resource. Parent groups will be encouraged to meet in the Center and use conference areas and the gross motor area within the Center for public meetings, parent organization meetings, and parent training seminars.

4. Communication Systems - The Center should be connected by a two-way intercommunication system. The system should have a "speak", "listen", and "cut-off" or privacy capability. As well, all assessment, therapy, classroom and observation areas should have a closed circuit television system to allow visual monitoring of areas, as well as video tape recording and/or playback capability. Each observation area should be equipped with sound and with video taping capacity. These aids are essential for the assessment process.

5. Building Security - Normal security measures should be taken. However, the pool, MRC and parent meeting areas should have separate entrances from the main entrance, and these areas should be able to be secured from the remainder of the building to allow limited use of the facility by community members in the evening or during weekends.

Summary of Spatial Relationships


Public Access
PARKING
Service Access
MATERIALS RESOURCE CENTER
INDEPENDENT LIVING TRAINING
OBSERVATION
MECHANICAL/ MAINTENANCE
ASSESSMENT THERAPY
CLASSROOMS
EXTERIOR PLAYGROUND
STAFF LOUNGE/ LUNCHROOM
OFFICE
GROSS MOTOR/ INTERIOR PLAYGROUND
POOL
Reception
Public Access
Public Access
PARKING

Summary of Spatial Requirements

	(Square Feet)
Reception Area (15 x 10) =	150
Office Area	
1. Offices (Coordinator/Program Specialist (10 x 15) x 2 =	300
2. Itinerant staff (75 sq. ft. x 4) =	150
3. Consultant staff (75 sq. ft. x 2) =	150
4. Work Room/Storage (10 x 20) =	300
5. Clerical staff (75 sq. ft. x 2) =	300
6. Conference Areas	
- small (15 x 15) x 2 =	450
- large (30 x 40) x 1 =	1200
Staff Lounge (30 x 40) x 1 =	1200
Assessment/Therapy Area (20 x 15) x 7 =	2100
Gross Motor Area (50 x 50) =	2500
Classroom Area (20 x 20) x 5 =	2000
Observation Areas (10 x 100) =	1000
Independent Living Training Area	
(Kitchen 10 x 10 = 100) (Living/Dining 20 x 20 = 400) (Bedroom 10 x 15 = 150)	650
Therapeutic Pool (40 x 40) =	1600
Materials Resource Center (50 x 50) =	2500
Washrooms (10 x 15) x 6 =	900
Mechanical/Maintenance Area (25 x 25) =	625
Storage/Corridor/Other? (15% of other Spatial Requirements) =	2734

Total Gross Area = 20,959 sq. ft.

General Cost Estimate

Information from BCH Architects (107 - 10221 104 Street, Edmonton) suggests that a figure of $110.00 per square foot for this specialized facility, including a pool, may be a reasonable working figure. This figure will be reduced to $24.00 to $45.00 per square foot for renovated space. Therefore, if the assumption is made that the total gross area will be between 20,000 and 25,000 square feet, the total gross cost for each Resource Center will be between $2.2 million and $2.75 million for new construction. The total cost may be slightly less depending upon the amount of renovatable space available.

Additional costs may be obtained by using some "rules of thumb" guidelines:

	for 20,000 sq. ft.	for 25,000 sq. ft.
Total Gross Cost	2,200,000	2,750,000
+ 15% for furniture and equipment (excluding the MRC lending materials)	330,000	412,500
+ 8% architectural fee	176,000	220,000
+ 1% miscellaneous expenses	22,000	27,500
+ cost of land	?	?
	$2,728,000	$3,410,000
	+ land	+ land
	+ MRC	+ MRC

SENSORY MULTIHANDICAPPED PROGRAM

PLANNING PROJECT

Supplement # 6

The Individualized Educational Program Planning Process

I. THE INDIVIDUALIZED EDUCATIONAL PROGRAM PLANNING PROCESS

Adapted from Materials of Georgia
Department of Education Office
of Instructional Services
Division of Special Programs
April, 1979

A written individualized educational program (IEP) must be prepared cooperatively by the parents, teachers, and resource services personnel and any other persons responsible for the child through a review process designed specifically for that purpose. An IEP is defined as a written statement covering the objectives, content, implementation, and evaluation of the child's educational program.

It should be realized that the IEP is not a static document. During regular assessment and evaluation of the child's progress changes may be noted, changes which affect the applicability of aspects of the IEP. In such cases referrals should be made to the proper authorities such that a review can be made and IEP changes implemented. The teacher should never assume the right to make these changes. He or she is not alone responsible for the child's IEP. The child's review committee, and especially the parents, must be included in this process. Prior notice needs to be given to the child's parents before any special educational diagnoses are performed or any changes in the educational program are made.

Educational or Instructional Programming for handicapped students include the following major steps:

1. Referral of the student to the Resource Center/
2. Assessment to determine the student's learning needs;
3. Individual Educational Program (IEP) development - resulting in an appropriate instructional plan for the student;
4. Placement of the student in a setting where needed special education services may best be provided;
5. Instruction of the student which proceeds according to a written plan developed by his teacher(s);
6. Review of the student's progress at least once a year.

1. Referral

The process begins when a student is referred to the Resource Center for consideration as a student who is sensory multihandicapped

Referrals may be made by:

parents
school personnel
physicians
health unit personnel
social services personnel
concerned community members
students themselves
others

Once a referral is received by the Resource Center, the administrator in charge will identify the person(s) who will:

a) Collect and review existing information on the student;
b) Conduct an initial screening to determine if the referral is appropriate and if further assessment is needed to identify the student's learning needs.

If it is determined that the student does not seem to meet the definition of an individual who is sensory multihandicapped, the referral will be returned. Reasons for not accepting the referral will be stated and other possible alternatives suggested. For example, students whose only apparent problem is a hearing or vision loss are not likely to be considered sensory multihandicapped and other ways of assisting the student would be suggested. If there is a need for more information about a student's performance and abilities, the next step would be assessment.

2. Assessment

Upon referral of a sensory multihandicapped child a case manager from the Resource Center staff is chosen. The case manager will be responsible for coordinating assessment, placement and follow-up services for the child. When parents have been advised of the reason for the assessment, the types of assessment to be done and have given their consent, the case manager will follow the procedure outlined below:

A. Collect and review all information from previous evaluation, diagnosis and school or residential placements.

B. Arrange for additional diagnostic testing as necessary.

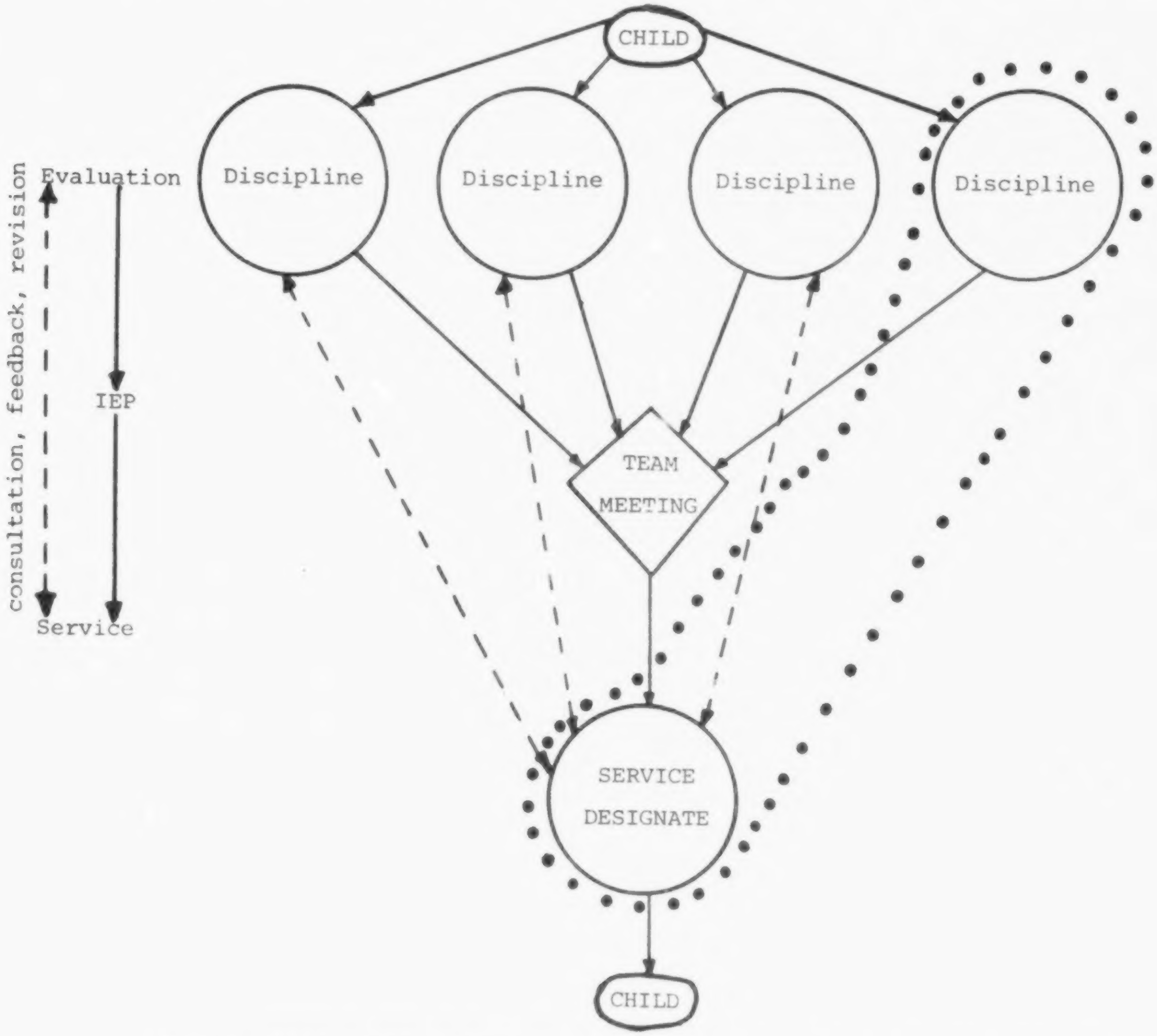
C. Visit the child's home with one other staff member to complete a preliminary screening and to become acquainted with the child, the family, and the home situation.

D. Coordinate the assessment, development of an IEP, preparation of formal reports and communicate results and recommendations to parents.

E. Arrange for the placement of the child on a home or school program and convey IEP recommendations to program providers.

F. Follow the progress of the child and facilitate modification of IEP and placement as necessary.

A transdisciplinary model will be utilized in the process of assessment and development of an IEP.


CHILD
Discipline
Discipline
Discipline
Discipline
consultation, feedback, revision
Evaluation
IEP
Service
TEAM MEETING
SERVICE DESIGNATE
CHILD

Responsibility and information flow in a transdisciplinary setting. (McCormick & Goldman, AAESPH Review, 1979, 4 (2), 152-161)

The respective disciplines are responsible for initial assessments in their area and are expected to contribute to the development of a comprehensive individualized treatment program. The responsibility for implementation of the program becomes the responsibility of a single service designate who may be the parent, teacher, or residence counselor.

The other team members are available on a continuing basis for consultation and direct assistance. For example, responsibility for a group of children for whom intensive language programming is the highest priority might be assigned to a teacher and a speech pathologist. They implement all programming prescribed for these children with consultation from other team members. The continuous nature of interactions dictated by the transdisciplinary organization can facilitate the information exchange critical to quality programming.

3. Developing the Individual Educational Program

The Resource Center will provide an "individualized educational program" (IEP) for each student who is receiving, or who will receive, special education services. The IEP (also referred to as an "educational plan", or an "instructional plan") is developed at a meeting of the team. The teacher(s) who will carry out the student's plan, and the student's parents, participate. The IEP is a written statement of:

1. The student's present level of educational performance in areas such as academic achievement, social adaptation, prevocational/vocational skills, psychomotor, and self-help skills;
2. Annual goals which describe what the student is expected to accomplish by the end of the school year;
3. Instructional objectives (which represent measurable steps between the student's present performance level and the goals set for the student), and criteria for determining, at least annually, the objectives which are being met;
4. The special education and related services to be provided to meet the child's needs, and a description of the extent of the student's participation, if any, in regular education.
5. The date when services will begin and the length of time they will be given.
6. The designation of the service provider(s), school and residential placement and program responsibilities.

Developing the IEP is a team effort conducted cooperatively by parents and professionals. The meeting to develop the IEP should accomplish the following:

1. Provide each member of the team with a clear picture of the student's areas of strength and weakness;

2. Identify, in order of importance, the student's educational needs, and what goals can reasonably be accomplished within the school year;
3. Specify measurable instructional objectives leading to the accomplishment of each major goal;
4. Identify instructional strategies and materials likely to be needed by the student;
5. Provide a form for exploring possible program and placement alternatives.
6. Specify program needs outside of the school day and school year.

The IEP is sometimes called a Total Service Plan since it outlines the student's program for more than the school year and lists the special services which will be provided for the student. Before the IEP is actually carried out the student's teacher(s) and/or other specialists who will be responsible for teaching the child may prepare a more detailed plan. This is sometimes called the Implementation Plan and it is similar to a series of lesson plans. The Implementation Plan should also be developed cooperatively with parents.

The Placement Recommendation is a very important part of the child's IEP. Placement refers to the type of setting in which the child will receive instruction. There is a wide range of placement options for the children who are sensory multihandicapped. Obviously, not all placement alternatives are available within all local school jurisdictions. One school jurisdiction may be cooperating with another or with Alberta Education and/or Alberta Social Services and Community Health to make a full range of services available to a child in a particular geographical area. It is the responsibility of the team, with input from the parents (and sometimes also the student), to determine the placement or educational setting in which the student's learning needs can best be met, and in which the child will be most able to function both as a student and as a person.

4. Instruction

Once the child's educational placement has been made, the service designate, together with other professionals, may prepare an Individual Implementation Plan. This usually consists of short-term instructional objectives and strategies related to each annual objective specified on the child's Total Service Plan. Parents should also be involved in this step. Short-term objectives are usually written for a period of a few weeks. The Implementation Plan includes a list of instructional resources and materials which will be used to help the child obtain the desired level of performance. The teacher, and other professionals who work with the child, will make periodic checks of the child's progress, and revise or change the short-term objectives and learning activities as necessary. Each short-term objective is intended as a step toward full attainment of annual instructional objectives. Some sample short-term objectives based on annual goals and objectives are shown below:

Goal: Increase self-help skills

Annual Objective: By June 1980, student will wash hands independently, given the direction to "wash hands."

Short-Term Objective: Given the direction to "wash hands," the student will wash hands within four minutes and require only verbal prompts.

Goal: Develop communication skills

Annual Objective: By June 1980, upon hearing verbal sounds made by teacher, student will imitate the same sounds.

Short-Term Objective: During lunch, when the teacher says "say milk," the student will respond with a vocalization 80% of the time for five consecutive days (adapted from Ryan, 1976).

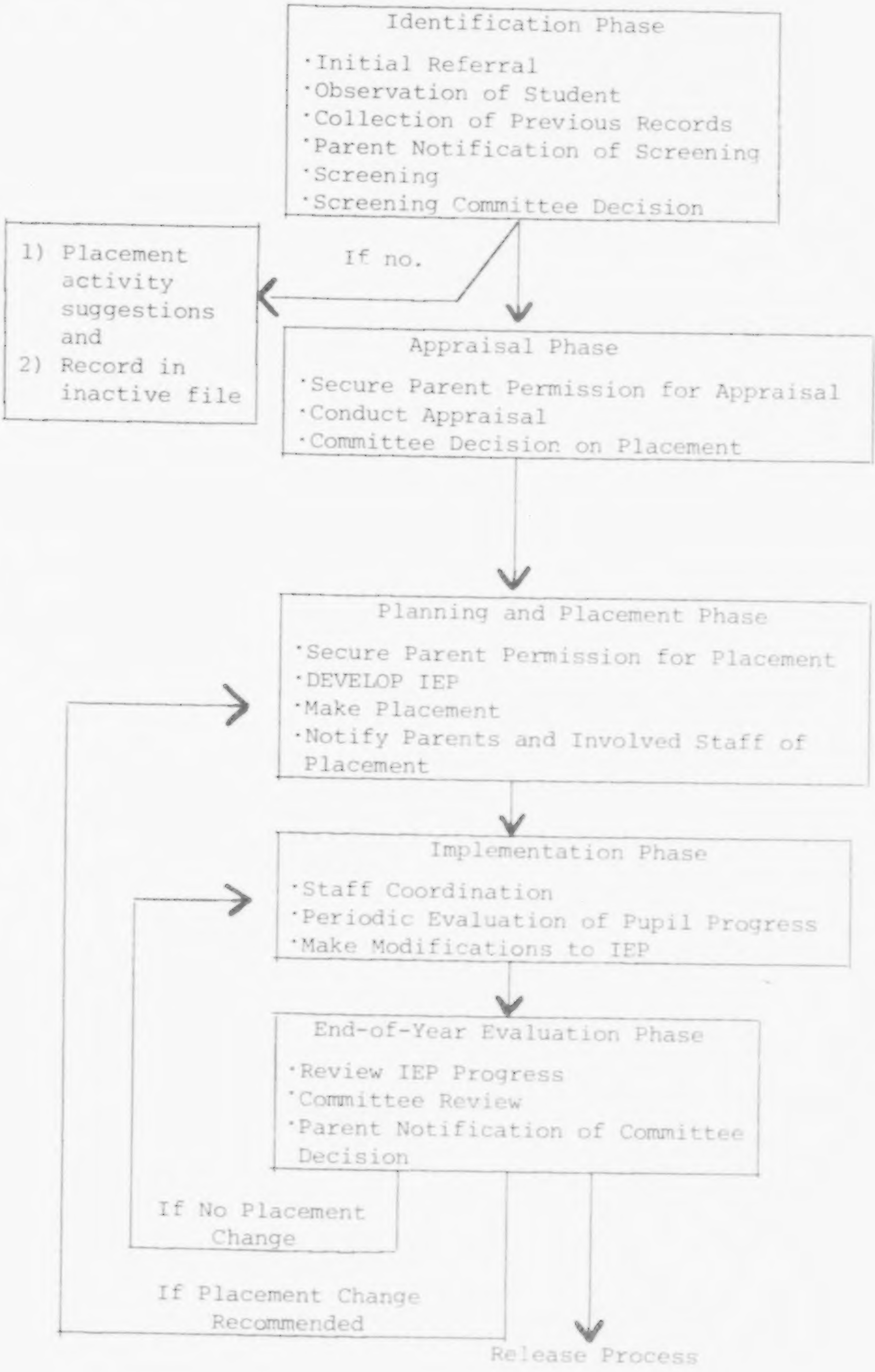
5. Review

At least once a year, the child's IEP will be reviewed by the team. The child's progress toward stated goals and objectives will be studied. Depending on the child's needs at that point in time, goals and objectives may be modified or changed, and alternate placements and services considered. A parent may require a review at any time. Teachers and other instructors of the child may also request a review of the child's progress at any point during the year.

Conclusion

Individualized Educational Programming means that, for each child with exceptional needs, there is a written plan developed to provide the child with the most beneficial educational program in the most appropriate setting. The plan also includes evaluation procedures.

PROGRAM PROCESS FLOW SHEET


Identification Phase
·Initial Referral
·Observation of Student
·Collection of Previous Records
·Parent Notification of Screening
·Screening
·Screening Committee Decision
If no.
1) Placement activity suggestions and
2) Record in inactive file
Appraisal Phase
·Secure Parent Permission for Appraisal
·Conduct Appraisal
·Committee Decision on Placement
Planning and Placement Phase
·Secure Parent Permission for Placement
·DEVELOP IEP
·Make Placement
·Notify Parents and Involved Staff of Placement
Implementation Phase
·Staff Coordination
·Periodic Evaluation of Pupil Progress
·Make Modifications to IEP
End-of-Year Evaluation Phase
·Review IEP Progress
·Committee Review
·Parent Notification of Committee Decision
If No Placement Change
If Placement Change Recommended
Release Process

SENSORY MULTIHANDICAPPED PROGRAM
PLANNING PROJECT

Supplement # 7

School Program

School Program

I. Goals

- A. To develop a communication system which allows for parent and school system understanding of the program, and parent involvement in planning, development and procedural aspects of the program.
- B. To develop a community awareness concerning the goals of the program, needs of the children, and how these relate to the community.
- C. To function within a multidisciplinary service delivery model to meet the educational, health, social and residential needs of each child served by the program.
- D. To cooperate with colleges and universities in the training of professionals and paraprofessional personnel to work with the sensory multihandicapped population.
- E. To utilize physical facilities to meet the educational needs of the sensory multihandicapped population and provide flexibility to adjust to needs that arise.
- F. To cooperate with Resource Center staff in an assessment and program planning process for each student.
- G. To insure the implementation of cooperatively developed individual education plans.

H. To provide school programs for all sensory multihandicapped students recommended by Resource Center staff and sponsored by their local school jurisdictions.

I. To cooperate in the planning and implementation of residential, home and summer programs for sensory multihandicapped students.

II. Administrative Structure

A. Program consultant

1. responsible for providing consultation to school staff regarding the sensory multihandicapped;
2. responsible for assisting teachers in program planning and implementation;
3. responsible for providing instructional and professional resource materials;
4. responsible for providing appropriate activities to meet the professional development needs of program personnel;
5. responsible for assisting in the development of curricula and assessment techniques.

B. School Principal

1. responsible for ensuring the delivery of school system programs and services to deaf multihandicapped, blind multihandicapped or deaf-blind students in the school;

2. responsible for ensuring cooperative development of individual educational plans for students in the school;
3. responsible for ensuring implementation of individual education plans for students in the school.

C. School Counselor

1. responsible for ensuring coordination of residential, home and school programs;
2. responsible for ensuring liaison with Resource Center staff regarding students' programs.

D. Teacher

1. responsible for delivery of instruction to students;
2. responsible for implementing programs for students;
3. responsible for assisting in the development of programs for children;
4. responsible for monitoring progress of individual.

E. Aide

1. responsible for assisting the teacher in the implementation of programs for individual students;

2. responsible for providing daily care and maintenance to students;
3. responsible for aspects of program implementation assigned by the teacher.

F. Speech/Communications Specialist

1. responsible for assessing communication level of the students;
2. responsible for designing communication programs for students;
3. responsible for providing consultation and inservice to educational staff regarding development of communication.

G. Physiotherapist

1. responsible for assessing the physical and motor functioning of the students;
2. responsible for designing motor development programs for students;
3. responsible for providing consultation and inservice to educational staff regarding the development of motor skills, both generally and on an individual student basis;
4. responsible for providing interpretation and consultation to parents;
5. responsible for arranging to prosthetic devices, and instructing in their care and use;
6. responsible for providing direct therapy.

H. Occupational Therapist

1. responsible for assessing the fine motor and adaptive programs for students;
2. responsible for designing adaptive programs for students;
3. responsible for providing consultation and inservice to educational staff regarding the development of adaptive functioning skills;
4. responsible for providing interpretation and consultation to parents;
5. responsible for providing direct therapy to students.

III. Resource Center Services to School Programs

A. For sensory multihandicapped students a broad spectrum of ancillary services is necessary. A number of these services will be available through the Resource Center while others will be available through the school system.

B. The teacher will be provided with consultation and support from specialists within the school system and from the Resource Center.

C. A cooperative effort on the part of school staff and Resource Center staff will be necessary for the provision of full services to sensory multihandicapped students.

IV. Residential Programs

  A. Programs for all sensory multihandicapped students will be provided partially or totally in the residential setting.

  B. Coordination of school based and residence based programs is essential.

V. Instructional Program

  A. School program staff and Resource Center staff are jointly responsible for the development of individual educational programs for each student.

  B. Curricular resources including guidelines for methodology will need to be developed by school system staff in cooperation with Resource Center staff.

  C. Areas of the curricula

    1. Self-care
      a. Eating skills
      b. Dressing skills
      c. Personal grooming
      d. Toilet training
      e. Sex education
    2. Daily living skills
      a. Room cleaning
      b. Personal laundry
      c. Housecleaning
      d. Food preparation skills

   - e. Simple cooking (e.g. sandwiches)
   - f. Cleanup
   - g. Meal planning

3. Money management and practical mathematics
   - a. Identifying coins
   - b. Counting
   - c. Change
   - d. Budgeting
   - e. Banking
   - f. Simple measurement
   - g. Basic concepts of time
   - h. Telling time

   NOTE: A pre-number skill section of this curriculum should also be developed which includes such areas as more/less.

4. Communications (integrated with other work)
   - a. Basic needs
   - b. Practical vocabulary
   - c. Interpersonal

5. Social skills
   - a. Relating to others
   - b. Peer interaction
   - c. Leisure time activities
     - (1) home
     - (2) school
     - (3) community

            - (4) All through a progression of
                - (a) exposure and supervision
                - (b) selection from given options, and supervision
                - (c) selection of activity independently, and supervision
                - (d) independent selection and participation
    - d. Individual play
    - e. Play involving interaction
- 6. Behavior
    - a. Procedures and approaches to behavior management
    - b. Outlines of expected behavior in common social and work situations
- 7. Visual training
    - a. Practical assessment
    - b. Program for development of visual skills including
        - (1) tracking light
        - (2) shapes
        - (3) size
        - (4) color
        - (5) shade
        - (6) outline
        - (7) inner detail
        - (8) picture matching
        - (9) picture to outline matching
        - (10) object to picture matching

8. Auditory training
    - a. Practical assessment
    - b. Sound awareness
    - c. Attending to sound
    - d. Sound localization
    - e. Sound discrimination
    - f. Auditory figure ground
    - g. Auditory memory
9. Motor training
    - a. Gross motor development
    - b. Fine motor development
    - c. Eye-hand coordination
    - d. Body awareness
    - e. Environmental awareness - spatial relationships
    - f. Mobility training
10. Prevocational

    A separate activity area should be set up which provides a range of simple activities. This area can be run primarily by the aides and used by the children when they are not involved in other areas.

    - a. Behavior acceptable to a work setting
    - b. Attending
    - c. Participation in work-like activities (e.g. sorting, assembling)